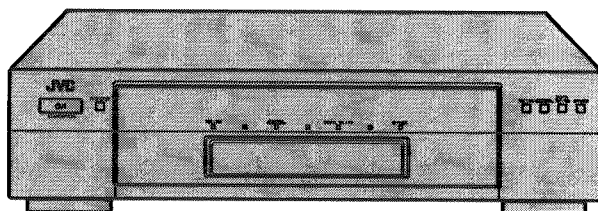


JVC

SERVICE MANUAL

VIDEO CASSETTE RECORDER

HR-S8600EU/S9600EU



TIME JOG & SCAN

Hi-Fi SVHS
625

SHOWVIEW®

SPECIFICATIONS *(The specifications shown pertain specifically to the model HR-S9600EU)*

GENERAL

Power requirement	: AC 220 – 240 V~, 50/60 Hz
Power consumption	
Power on	: 24 W
Power off	: 5.7 W
Temperature	
Operating	: 5°C to 40°C
Storage	: -20°C to 60°C
Operating position	: Horizontal only
Dimensions (WxHxD)	: 437 x 106 x 352 mm
Weight	: 5.1 kg
Format	: S-VHS/VHS PAL standard
Maximum recording time	
(SP)	: 240 min. with E-240 video cassette
(LP)	: 480 min. with E-240 video cassette

VIDEO/AUDIO

Signal system	: PAL-type colour signal and CCIR monochrome signal, 625 lines 50 fields
Recording system	: DA4 (Double Azimuth) head helical scan system
Signal-to-noise ratio	: 45 dB
Horizontal resolution	: 250 lines (VHS) 400 lines (S-VHS)
Frequency range	: 70 Hz to 10,000 Hz (Normal audio) 20 Hz to 20,000 Hz (Hi-Fi audio)
Input/Output	: 21-pin SCART connectors : IN/OUT x 1, IN/DECODER x 1 RCA connectors: VIDEO IN x 1, AUDIO IN x 1, AUDIO OUT x 1 S-Video connectors: IN x 1, OUT x 1

TUNER/TIMER

TV channel storage capacity	: 99 positions (+AUX position)
Tuning system	: Frequency synthesized tuner
Channel coverage	: VHF 47 – 89/104 – 300/ 302 – 470MHz UHF 470 – 862MHz
Aerial output	: UHF channels 22 – 69 (Adjustable)
Memory backup time	: Approx. 60 min.

ACCESSORIES

Provided accessories	: RF cable, Infrared remote control unit, "R6" battery x 2 S-Video cable
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*Specifications shown are for SP mode unless otherwise specified.
E. & O.E. Design and specifications subject to change without notice.*

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The following table lists the differing points between Models (HR-S8600EU and HR-S9600EU) in this series.

	HR-S8600EU	HR-S9600EU
TAPE ACCESS (MARK)	AUTO	AUTO/MANUAL
TAPE ACCESS (ERASE)	NO	MANUAL
HIGH GRADE AUDIO PARTS	NOT USED	USED
FOOT	NOT USED	USED
ACCESSORY (VIDEO CABLE)	NO	S(4PIN) – S(4PIN)

Important Safety Precautions

Prior to shipment from the factory, JVC products are strictly inspected to conform with the recognized product safety and electrical codes of the countries in which they are to be sold. However, in order to maintain such compliance, it is equally important to implement the following precautions when a set is being serviced.

●Precautions during Servicing

1. Locations requiring special caution are denoted by labels and inscriptions on the cabinet, chassis and certain parts of the product. When performing service, be sure to read and comply with these and other cautionary notices appearing in the operation and service manuals.

2. Parts identified by the Δ symbol and shaded (■) parts are critical for safety.

Replace only with specified part numbers.

Note: Parts in this category also include those specified to comply with X-ray emission standards for products using cathode ray tubes and those specified for compliance with various regulations regarding spurious radiation emission.

3. Fuse replacement caution notice.
Caution for continued protection against fire hazard.
Replace only with same type and rated fuse(s) as specified.

4. Use specified internal wiring. Note especially:

- 1) Wires covered with PVC tubing
- 2) Double insulated wires
- 3) High voltage leads

5. Use specified insulating materials for hazardous live parts. Note especially:

- 1) Insulation Tape
- 2) PVC tubing
- 3) Spacers
- 4) Insulation sheets for transistors
- 5) Barrier

6. When replacing AC primary side components (transformers, power cords, noise blocking capacitors, etc.) wrap ends of wires securely about the terminals before soldering.

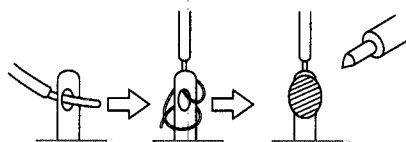


Fig.1

7. Observe that wires do not contact heat producing parts (heatsinks, oxide metal film resistors, fusible resistors, etc.)

8. Check that replaced wires do not contact sharp edged or pointed parts.

9. When a power cord has been replaced, check that 10-15 kg of force in any direction will not loosen it.

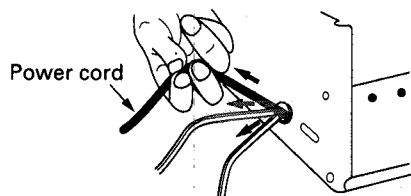


Fig.2

10. Also check areas surrounding repaired locations.

11. Products using cathode ray tubes (CRTs)

In regard to such products, the cathode ray tubes themselves, the high voltage circuits, and related circuits are specified for compliance with recognized codes pertaining to X-ray emission. Consequently, when servicing these products, replace the cathode ray tubes and other parts with only the specified parts. Under no circumstances attempt to modify these circuits. Unauthorized modification can increase the high voltage value and cause X-ray emission from the cathode ray tube.

12. Crimp type wire connector

In such cases as when replacing the power transformer in sets where the connections between the power cord and power transformer primary lead wires are performed using crimp type connectors, if replacing the connectors is unavoidable, in order to prevent safety hazards, perform carefully and precisely according to the following steps.

1) **Connector part number** : E03830-001

2) **Required tool** : Connector crimping tool of the proper type which will not damage insulated parts.

3) **Replacement procedure**

(1) Remove the old connector by cutting the wires at a point close to the connector.

Important : Do not reuse a connector (discard it).

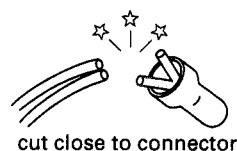


Fig.3

(2) Strip about 15 mm of the insulation from the ends of the wires. If the wires are stranded, twist the strands to avoid frayed conductors.

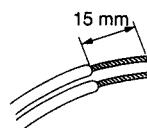


Fig.4

(3) Align the lengths of the wires to be connected. Insert the wires fully into the connector.

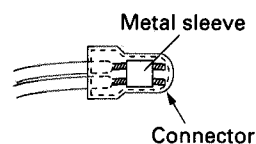


Fig.5

(4) As shown in Fig.6, use the crimping tool to crimp the metal sleeve at the center position. Be sure to crimp fully to the complete closure of the tool.



Fig.6

(5) Check the four points noted in Fig.7.

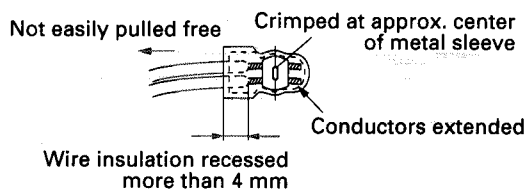


Fig.7

● Safety Check after Servicing

Examine the area surrounding the repaired location for damage or deterioration. Observe that screws, parts and wires have been returned to original positions. Afterwards, perform the following tests and confirm the specified values in order to verify compliance with safety standards.

1. Insulation resistance test

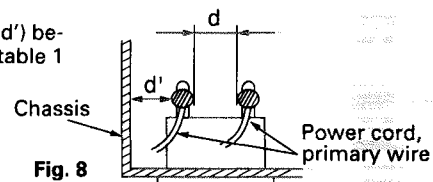
Confirm the specified insulation resistance or greater between power cord plug prongs and externally exposed parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

2. Dielectric strength test

Confirm specified dielectric strength or greater between power cord plug prongs and exposed accessible parts of the set (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.). See table 1 below.

3. Clearance distance

When replacing primary circuit components, confirm specified clearance distance (d), (d') between soldered terminals, and between terminals and surrounding metallic parts. See table 1 below.

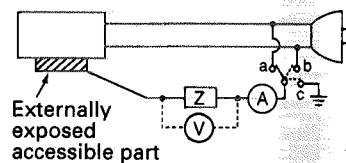


4. Leakage current test

Confirm specified or lower leakage current between earth ground/power cord plug prongs and externally exposed accessible parts (RF terminals, antenna terminals, video and audio input and output terminals, microphone jacks, earphone jacks, etc.).

Measuring Method: (Power ON)

Insert load Z between earth ground/power cord plug prongs and externally exposed accessible parts. Use an AC voltmeter to measure across both terminals of load Z. See figure 9 and following table 2.

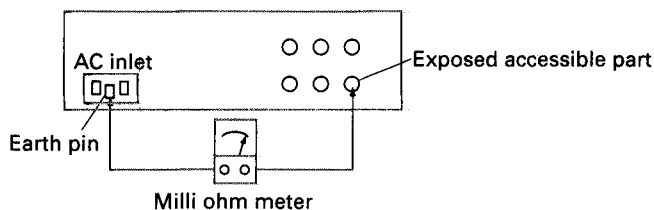


5. Grounding (Class I model only)

Confirm specified or lower grounding impedance between earth pin in AC inlet and externally exposed accessible parts (Video in, Video out, Audio in, Audio out or Fixing screw etc.).

Measuring Method:

Connect milli ohm meter between earth pin in AC inlet and exposed accessible parts. See figure 10 and grounding specifications.



Grounding Specifications

Region	Grounding Impedance (Z)
USA & Canada	$Z \leq 0.1 \text{ ohm}$
Europe & Australia	$Z \leq 0.5 \text{ ohm}$

AC Line Voltage	Region	Insulation Resistance (R)	Dielectric Strength	Clearance Distance (d), (d')
100 V	Japan	$R \geq 1 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3 \text{ mm}$
100 to 240 V			AC 1.5 kV 1 minute	$d, d' \geq 4 \text{ mm}$
110 to 130 V	USA & Canada	$1 \text{ M}\Omega \leq R \leq 12 \text{ M}\Omega/500 \text{ V DC}$	AC 1 kV 1 minute	$d, d' \geq 3.2 \text{ mm}$
110 to 130 V	Europe & Australia	$R \geq 10 \text{ M}\Omega/500 \text{ V DC}$	AC 3 kV 1 minute (Class II)	$d \geq 4 \text{ mm}$
200 to 240 V			AC 1.5 kV 1 minute (Class I)	$d' \geq 8 \text{ mm (Power cord)}$ $d' \geq 6 \text{ mm (Primary wire)}$

Table 1 Specifications for each region

AC Line Voltage	Region	Load Z	Leakage Current (i)	a, b, c
100 V	Japan	$1 \text{ k}\Omega$	$i \leq 1 \text{ mA rms}$	Exposed accessible parts
110 to 130 V	USA & Canada	$0.15 \mu\text{F}$ in parallel with $1.5 \text{ k}\Omega$	$i \leq 0.5 \text{ mA rms}$	Exposed accessible parts
110 to 130 V 220 to 240 V	Europe & Australia	$2 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Antenna earth terminals
		$50 \text{ k}\Omega$	$i \leq 0.7 \text{ mA peak}$ $i \leq 2 \text{ mA dc}$	Other terminals

Table 2 Leakage current specifications for each region

Note: These tables are unofficial and for reference only. Be sure to confirm the precise values for your particular country and locality.

INSTRUCTIONS

[This instruction manual is for HR-S9600EU]

2 EN

SAFETY FIRST

EN 3

Safety Precautions

The rating plate and the safety caution are on the rear of the unit.

WARNING: DANGEROUS VOLTAGE INSIDE

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

CAUTION

- When you are not using the recorder for a long period of time, it is recommended that you disconnect the power cord from the mains outlet.
- Dangerous voltage inside. Refer internal servicing to qualified service personnel. To prevent electric shock or fire hazard, remove the power cord from the mains outlet prior to connecting or disconnecting any signal lead or aerial.

WARNING

There are two different types of SECAM colour systems: SECAM-L, used in FRANCE (also called SECAM-West), and SECAM-B, used in Eastern European countries (also called SECAM-East).

1. This recorder can also receive SECAM-B colour television signals for recording and playback.
2. Recordings made of SECAM-B television signals produce monochrome pictures if played back on a video recorder of SECAM-L standard, or do not produce normal colour pictures if played back on a PAL video recorder with SECAM-B system incorporated (even if the TV set is SECAM-compatible).
3. SECAM-L prerecorded cassettes or recordings made with a SECAM-L video recorder produce monochrome pictures when played back with this recorder.
4. This recorder cannot be used for the SECAM-L standard. Use a SECAM-L recorder to record SECAM-L signals.

IMPORTANT

- Please read the various precautions on page 2 and 3 before installing or operating the recorder.
- It should be noted that it may be unlawful to re-record pre-recorded tapes, records, or discs without the consent of the owner of copyright in the sound or video recording, broadcast or cable programme and in any literary, dramatic, musical, or artistic work embodied therein.

S-VHS **SHOWVIEW**
625

- Cassettes marked "S-VHS" and "VHS" can be used with this video cassette recorder. However, S-VHS recordings are possible only with cassettes marked "S-VHS".
- ShowView is a registered trademark of Gemstar Development Corporation. The ShowView system is manufactured under licence from Gemstar Development Corporation.

For Italy:

"It is declared that this product, brand JVC, conforms to the Ministry Decree n. 548 of 28 Aug. '95 published in the Official Gazette of the Italian Republic n. 301 of 28 Dec. '95"

The STANDBY/ON button does not completely shut off mains power from the unit, but switches operating current on and off. "O" shows electrical power standby and "I" shows ON.

Video tapes recorded with this video recorder in the LP (Long Play) mode cannot be played back on a single-speed video recorder.

Failure to heed the following precautions may result in damage to the recorder, remote control or video cassette.

1. **DO NOT place the recorder . . .**
 - ... in an environment prone to extreme temperatures or humidity.
 - ... in direct sunlight.
 - ... in a dusty environment.
 - ... in an environment where strong magnetic fields are generated.
 - ... on a surface that is unstable or subject to vibration.
2. **DO NOT block the recorder's ventilation openings.**
3. **DO NOT place heavy objects on the recorder or remote control.**
4. **DO NOT place anything which might spill on top of the recorder or remote control.**
5. **Avoid violent shocks to the recorder during transport.**

MOISTURE CONDENSATION

Moisture in the air will condense on the recorder when you move it from a cold place to a warm place, or under extremely humid conditions—just as water droplets form in the surface of a glass filled with cold liquid. Moisture condensation on the head drum will cause damage to the tape. In conditions where condensation may occur, keep the recorder turned on for a few hours to let the moisture dry.

ABOUT HEAD CLEANING

Accumulation of dirt and other particles on the video heads may cause the playback picture to become blurred or interrupted. Be sure to contact your nearest JVC dealer if such troubles occur.

Basic Connections

It's essential that your video recorder be properly connected. Follow these steps carefully. THESE STEPS MUST BE COMPLETED BEFORE ANY VIDEO OPERATION CAN BE PERFORMED.

CHECK CONTENTS

Make sure the package contains all of the accessories listed in "Specifications" (see pg. 75).

SITUATE RECORDER

Place the recorder on a stable, horizontal surface.

CONNECT RECORDER TO TV

The connection method you use depends on the type of TV you have.

RF CONNECTION

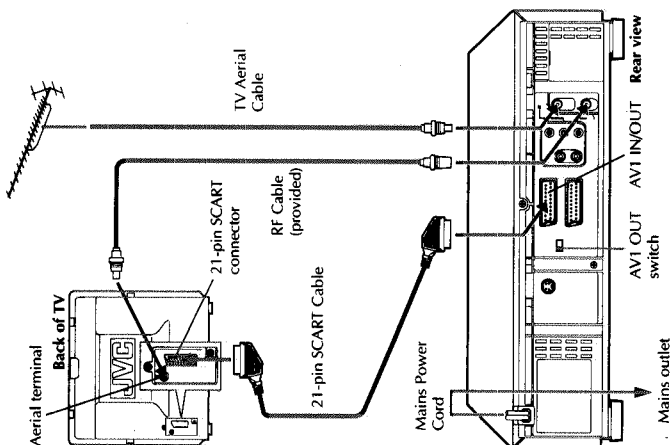
- ➔ **To Connect To A TV With NO AV Input Terminals...**
 - a-** Disconnect the TV aerial cable from the TV.
 - b-** Connect the TV aerial cable to the ANT. IN jack on the rear panel of the recorder.
 - c-** Connect the provided RF cable between the RF OUT jack on the rear panel of the recorder and the TV's aerial terminal.

AV CONNECTION

- a- **To Connect To A TV With AV Input Terminals . . .**
- a- Connect the aerial, recorder and TV as per "RF CONNECTION".
- b- Connect an optional SCART cable between the AV1 IN/OUT socket on the rear panel of the recorder and the TV's 21-pin SCART connector.
- c- Set the AV1 OUT switch to the appropriate position. See "AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION" below.

CONNECT RECORDER TO VAINS

Plug the end of the mains power cord into a mains outlet.



Make AV connection if your TV has a 21-pin AV input connector (SCART) in order to reduce the possibility of interference. And if you are using a stereo TV, you will need this cable in order to enjoy stereo playback of videotapes.

AV1 INPUT/OUTPUT SIGNAL SELECTION FOR AV CONNECTION

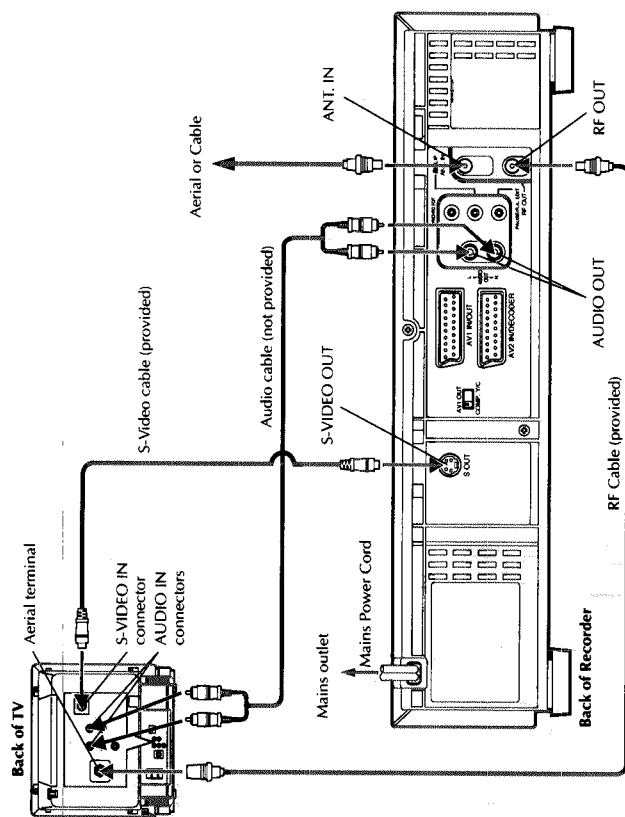
The AV1 IN/OUT connector accepts and delivers either a composite signal (regular video signal) or a Y/C signal (a signal in which the luminance and chrominance signals are separated). For input signal selection, select "VIDEO" (regular video signal) or "S-VIDEO" (Y/C signal) for "AV1 SELECT" setting (see pg. 44). For output signal selection, use AV1 OUT switch of the rear panel.

- If your TV's 21-pin AV input connector (SCART) is compatible only with the regular video signal, set this switch to COMP.
- If your TV's 21-pin AV input connector (SCART) is compatible with the Y/C signal, set this switch to Y/C. You can obtain high-quality S-VHS pictures. (For connection, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.)

NOTES:

- Set your TV to the VIDEO (or AV), Y/C, or RGB mode according to the type of your TV's SCART connector.
- For switching the TV's mode, refer to the instruction manual of your television.
- To obtain high-quality S-VHS pictures, you can also use the S-VIDEO CONNECTION described on page 5.

S-VIDEO Connection



NOTES:

- You can obtain high-quality S-VHS pictures.
- If your television is not stereo-capable, use the recorder's AUDIO OUT connectors to connect to an audio amplifier for Hi-Fi stereo sound reproduction. (See pg. 55)
- To operate the recorder with your TV using the S-VIDEO connection, set your TV to the VIDEO (or AV mode).
- For switching the TV's mode, refer to the instruction manual of your television.

CONNECT RECORDER TO TV

- Connect the aerial, recorder and TV as per "RF CONNECTION" (pg. 4).
- Connect the recorder's S-VIDEO OUT connector to the TV's S-VIDEO IN connector.
- Connect the recorder's AUDIO OUT connectors to the TV's AUDIO IN connectors.

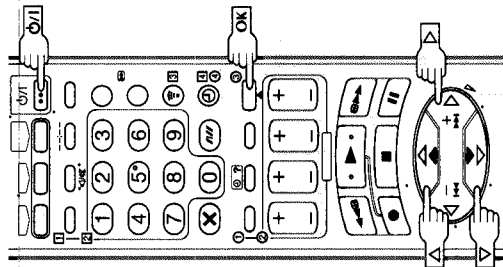
CONNECT RECORDER TO MAINS

Plug the end of the mains power cord into a mains outlet.

After you plug the mains power cord into a mains outlet, the Country Set display appears on the TV screen and/or on the recorder's front display panel when the **TV/I** button on the recorder/remote control is pressed for the first time to power on the recorder, go to page 6 to perform Auto Set Up.

Auto Set Up

Auto Channel Set/Auto Clock Set/Auto Guide Program Number Set



When the Δ button on the recorder/remote control is pressed for the first time to power on the recorder, after you plug the mains power cord into a mains outlet, the Country Set display will appear on the TV screen and the recorder's front display panel. By simply selecting your country*, the Auto Set Up function sets the tuner channels, clock** and Guide Program numbers automatically.

- * If you live in Belgium (BELGIUM) or Switzerland (SUISSE), you also need to select your language.
- ** If you live in Hungary (MAGYARORSZÁG), Czech Republic (ČESKA REPUBLIKA), Poland (POLSKA) or other countries in Eastern Europe (OTHER EASTERN EUROPE), set the clock manually.

You can refer to the front display panel and/or the on-screen display to perform this procedure.

Before starting, make sure of the following:

- The TV aerial cable should be connected to the recorder
- The recorder's mains power cord should be connected to a mains outlet.
- If you want to use the on-screen display, the TV should be set to its AV mode (with AV or S-VIDEO connection E7 pg. 4 or 5) or UHF channel 36 (with RF connection E7 pg. 4).

TURN ON THE RECORDER

Press Δ on the recorder or remote control. The Country Set display appears on the front display panel and/or on the screen.

SET 32

NOTE:

If you have connected your TV to the recorder with RF connection and the on-screen display appearing on UHF channel 36 looks distorted, perform "Video Channel Set" on page 63.

SELECT COUNTRY

If you are referring to the front display panel Press Δ to select your international telephone country code of your country referring to the chart in the left column.

(Ex.) DEUTSCHLAND is selected

SET 49

If you are referring to the on-screen display

Press Δ to move the highlight bar (pointer) to your country's name.

NOTE:

If you have selected BELGIUM (32) or SUISSE (41), go to step 3. If you have selected MAGYARORSZÁG (36), ČESKA REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE), press OK. The Clock Set screen will appear. Set the clock manually (E7 pg. 64 – 65), then go to step 4. If you have selected any other country name (code), go to step 4.

International Telephone Country Code	
BELGIUM : 32	NORGE : 47
ČESKA REPUBLIKA : 42	ÖSTERREICH : 43
DANMARK : 45	POLSKA : 48
DEUTSCHLAND : 49	PORTUGAL : 351
ESPAÑA : 34	SUISSE : 41
GRECE : 30	SUOMI : 358
ITALIA : 39	SVERIGE : 46
MAGYARORSZÁG : 36	OTHER WESTERN EUROPE : --
NETHERLAND : 31	OTHER EASTERN EUROPE : EE

ATTENTION

Once you have performed Auto Set Up, even if the recorder's memory backup has expired, all the stored stations and their Guide Program numbers remain in the recorder's memory and the recorder will not perform Auto Set Up again. You only need to set the clock. (E7 pg. 64)

If you have moved to a different area, perform each setting as required.

- Video Channel setting (for RF connection users) E7 pg. 63
- Tuner setting E7 pg. 56
- Clock setting E7 pg. 64

If a new station starts broadcasting in your area, perform tuner setting (E7 pg. 56) and, if necessary, video channel setting (E7 pg. 63).

NOTES:

- Auto channel set function takes place first; it assigns automatically all receivable stations in your area.
- Auto clock set function sets the clock automatically by reading the clock setting data from a station transmitting a PDC signal while auto channel set is being performed.
- During auto channel set, the recorder recognizes each station name of the detected stations and stores them in the recorder's memory, then automatically sets ShowView assigned Guide Program number for those stations according to the broadcast area.
- In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.
- If there is a power cut, or if you press Δ or MENU while Auto Set Up is in progress, Auto Set Up will be interrupted; be sure to turn off the recorder power once and try again from step 1.
- Auto clock may not function properly depending on the reception condition.

SELECT LANGUAGE

Press OK. The Language Set display appears on the front display panel and/or on the screen.

If you are referring to the front display panel Press Δ to select your language code.

Language Code	
ENGLISH : 01	NEDERLANDS : 06
DEUTSCH : 02	SVENSKA : 07
FRANCAIS : 03	NORSK : 08
ITALIANO : 04	SUOMI : 09
CASTELLANO : 05	DANSK : 10

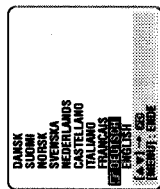
(Ex.) DEUTSCH is selected for SUISE

International telephone country code

4 1 - 02

If you are referring to the on-screen display

Press Δ to move the highlight bar (pointer) to the language of your choice.



(Ex.) DEUTSCH is selected

PERFORM AUTO SET UP

Press OK.

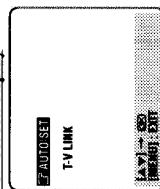
If you are referring to the front display panel

Press Δ to select "Auto" and press OK or Δ .

Auto

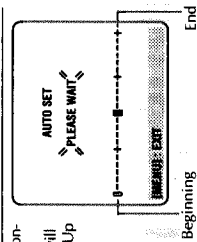
If you are referring to the on-screen display

Press Δ to move the highlight bar (pointer) to "AUTO SET" and press OK or Δ .



"Auto" blinks on the display panel; do NOT press any button on the recorder or remote control until the display panel shows either the display as illustrated on page 9 or "..."

- If you are using the on-screen display, the AUTO SET screen will appear. As Auto Set Up progresses, the "..." mark on the screen moves from left to right.

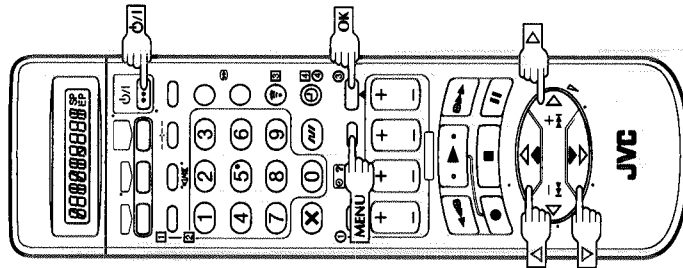


• If "..." appears on the display panel, refer to page 9.

Preset Download

You can use this function only with the TV offering T.V. Link, etc.*

* Compatible with TVs offering T.V. Link, EasyLink, Megaloc, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.



NOTES:

- In the area where no TV station transmits a PDC signal, the recorder can perform neither auto clock set nor auto Guide Program number set.
- If there is a power cut, or if you press **0/1** or **MENU** while downloading or set up is in progress, it will be interrupted; be sure to turn off the recorder power once and try again from the beginning.
- Auto clock may not function properly depending on the reception condition.
- When you perform T.V. LINK function, be sure to use fully-wired 21-pin SCART cable.
- On this recorder, the characters available for station's name (ID) are A-Z, 0-9, -, *, + and _ (space). Some downloaded station's name may differ from those of your TV (cf. pg. 60).

When you connect the recorder and your TV via fully-wired 21-pin SCART cable (cf. pg. 4), you can set the recorder's tuner channels by downloading preset data from your TV instead of using the Auto Set Up function (cf. pg. 6). After downloading is completed, the recorder sets the clock and Guide Program number automatically. For details, refer to the instruction manual for your TV.

Perform steps 1 to 3 of "Auto Set Up" on page 6 and 7 before continuing.

PERFORM PRESET DOWNLOAD

Press **OK**.

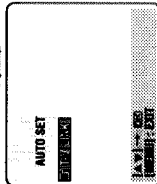
If you are referring to the front display panel

Press **Δ** to select "CH--" and press **OK** or **▷**.



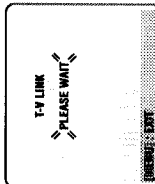
If you are referring to the on-screen display

Press **Δ** to move the highlight bar (pointer) to "T.V. LINK" and press **OK** or **▷**.



Preset position on the display panel increases from "CH1", do NOT press any button on the recorder or remote control until the display panel shows either the display as illustrated on page 9 or "----".

- If "----" appears on the display panel, refer to page 9.
- If you are using the on-screen display, the T.V. LINK screen will appear. Then the GUIDE PROG SET screen will appear during Guide Program number set.
- If you press any button on the recorder or remote control while downloading is in progress, it will be interrupted.



SET VIDEO CHANNEL

Set the Video Channel to off manually. (cf. pg. 63)

Results of Auto Set Up/Preset Download appear on the front display panel



When both auto channel set and auto clock set have been completed successfully but auto clock set has not, "1" (channel position) will be displayed after the **OK** button is pressed in step 4 on page 7 or in step 1 on page 8.

When auto channel set has been completed successfully but auto clock set has not, "1" (channel position) will be displayed after the **OK** button is pressed in step 4 on page 7 or in step 1 on page 8.

When neither auto channel set nor auto clock set has been completed successfully, "----" will be displayed.

You can check if the Guide Program numbers have been set correctly when you perform ShowView Timer Programming (cf. pg. 28); if the correct channel position number is displayed in step 3, this confirms that the Guide Program number for the ShowView number you enter in step 2 has been set correctly.

A If both auto channel set and auto clock set have been performed successfully:

- 1 Turn on the TV and select its VIDEO channel or AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
 - If station names (ID — cf. pg. 61) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
 - If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 58 — 62.

B If auto channel set has succeeded but auto clock set has not:

- 1 Turn on the TV and select its VIDEO channel or AV mode, then make sure that all necessary stations have been stored in the recorder's memory by using the **TV PROG** button(s).
 - If station names (ID — cf. pg. 61) have also been stored in the recorder's memory, the station name will be displayed at the top left corner of the screen for about 5 seconds when the recorder is tuned to a different station.
 - If you want to set the tuner manually such as to add or skip channels, to change channel positions, or to set or change station names, see pages 58 — 62.
- 2 Perform "Clock Set" on page 64.

C If both auto channel set and auto clock set have failed:

- 1 Make sure the TV aerial cable is connected properly to the recorder and turn off the recorder power once, then turn the recorder power back on again.
 - The Country Set display appears on the front display panel and/or on the screen; perform steps 2 — 4 on pages 6 — 7 again or perform the procedure on page 8.

IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using ShowView, the recorder will record a TV programme of a different station. When programming the timer using ShowView, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (cf. pg. 28, "ShowView Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture **⇨** "Delete A Channel" on page 59.

INFORMATION

Language for the on-screen display

Auto Set Up also selects the language automatically for the on-screen display depending on the Country setting you have made in step 2 on page 6 (unless you have selected BELGIUM or SUISSE), as shown below.

SUOMI	→	SUOMI	→	DANSK	→	NEDERLAND	→	NEDERLANDS
PORTUGAL	→	ÖSTERREICH	→	DEUTSCH	→	GREECE	→	ENGLISH
DEUTSCHLAND	→	ČESKA REPUBLIKA	→	ENGLISH	→	OTHER WESTERN EUROPE	→	ENGLISH
POLSKA	→	ITALIANO	→	ENGLISH	→	OTHER EASTERN EUROPE	→	ENGLISH
NORGE	→	MAGYARORSZÁG	→	ENGLISH	→		→	
SVENSKA	→	ESPAÑA	→	CASTELLANO	→		→	

Just Clock

Your recorder is equipped with the Just Clock function which provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal. If you want to take advantage of this function, simply set it to "ON". (cf. "Just Clock" on page 64).

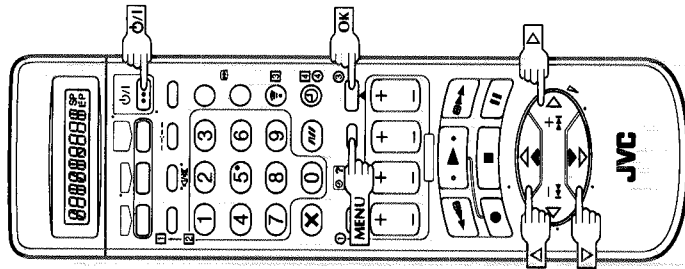
Language

This recorder offers you the choice to view on-screen messages in 10 different languages. Though Auto Set Up selects the language automatically (see pg. 9), you can change the language setting manually using this procedure as required.

TURN ON THE RECORDER

Press **ON/**.

Turn on the TV and select the VIDEO channel (or AV mode).



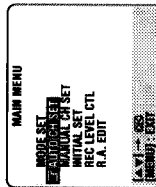
1

ACCESS MAIN MENU

Press **MENU**.

ACCESS COUNTRY SET SCREEN

Press **Δ**/**∇** to move the highlight bar (pointer) to "AUTO CH SET", then press **OK** or **▶**.



2

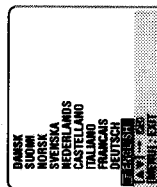
SELECT COUNTRY

Press **Δ**/**∇** to move the highlight bar (pointer) to your country's name, then press **OK** or **▶**.

SELECT LANGUAGE

Press **Δ**/**∇** to move the highlight bar (pointer) to the language of your choice.

- You do not have to press **OK**; pressing **OK** enters Auto Set/T-V LINK screen.



3

RETURN TO NORMAL SCREEN

Press **MENU**.

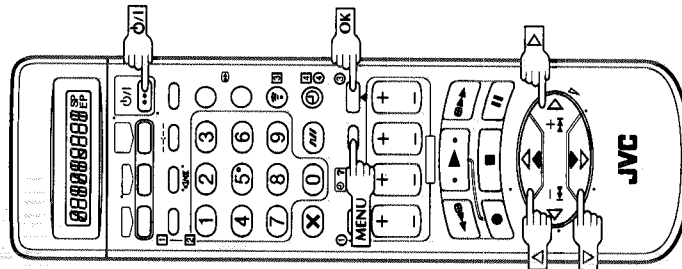
4

5

6

On-Screen Displays

Turn on the TV and select the VIDEO channel (or AV mode).



1

2

3

4

5

You can choose whether or not to have various operational indicators appear on screen, by setting this function ON or OFF. Messages appear in the selected language (see pg. 9 or 10).

TURN ON THE RECORDER

Press **ON/**.

ACCESS MAIN MENU

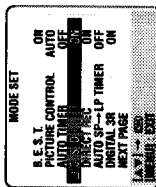
Press **MENU**.

ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing **Δ**/**∇**, then press **OK** or **▶**.

ENABLE/DISABLE ON-SCREEN DISPLAY

The default setting is "ON", so if you want on-screen displays, leave the setting as it is and go to step 5. If you don't want the displays to appear, press **Δ**/**∇** to move the highlight bar (pointer) to "O.S.D.", and press **OK** or **▶** to set "O.S.D." to "OFF".



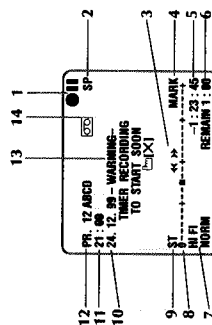
RETURN TO NORMAL SCREEN

Press **MENU**.

NOTES:

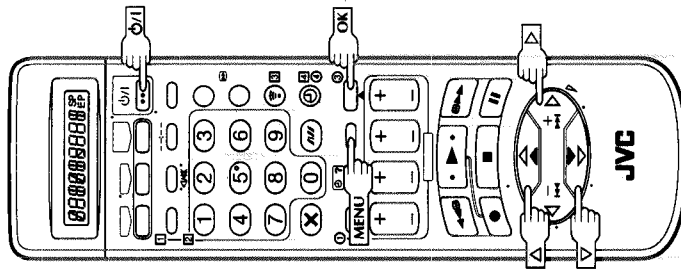
- When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting.
- During playback, the operation mode indicators may be disturbed depending on the type of tape being used.

The superimposed indication on the TV screen tells you what the recorder is doing.



- 1- Operation mode indicators
- 2- Tape speed SP/LP/EP (EP is for NTSC playback only)
- 3- Tape direction
- 4- Index MARK/ERASE indicator (see pg. 17)
- 5- Counter display
- 6- Tape remaining time indicator (see pg. 23)
- 7- Audio mode display (see pg. 19)
- 8- Tape position indicator (see pg. 15)
- 9- Type of Broadcast (see pg. 25)
- 10- Current day/month/year
- 11- Clock display
- 12- Channel position number and station name/Aux. indicator (L-1, L-2, F-1 or S-1)
- 13- Timer warning display (see pg. 29, 31)
- 14- Cassette loaded mark

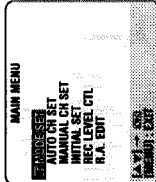
Turn on the TV and select the VIDEO channel (or AV mode).



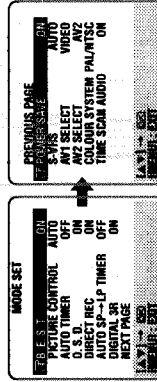
TURN ON THE RECORDER
Press 5/1.

Press MENU.

Press $\Delta \nabla$ to move the highlight bar (pointer) to "MODE SET", then press **OK** or Δ .



Press $\Delta \nabla$ to move the highlight bar (pointer) to "POWER SAVE"; then press **OK** or $\triangleright$ to set to "ON".



Press MENU.

- During Power Save, the display panel will be turned off
- The Just Clock function E3 pg. 64 does not work while the Power Save mode is engaged.
- While the recorder is in the Power Save mode, the picture may be distorted momentarily when you turn on/off the recorder.
- Power Save does not work when ...
 - ... the recorder is in the Timer mode.
 - ... the recorder's power is turned off after timer-recording (or Instant Timer Recording).
 - ... the Auto Satellite Prog. Recording mode is engaged (E3 pg. 35).
 - ... "AV2 SELECT" is set to "DECODE" or "SAT" (E3 pg. 44).

When you connect the recorder and your TV via fully-wired 21-pin SCART cable (see pg. 4), the following functions are available. You can use these functions only with the TV offering I-V Link, etc.*

For details, refer to the instruction manual for your TV.
* Compatible with TVs offering T-V Link, EasyLink, MegaLogic, SMARTLINK, Q-Link, DATA LOGIC or NEXTVIEWLINK via fully-wired 21-pin SCART cable. The degree of compatibility and available functions may differ by system.

You can download the EPG (Electronic Programme Guide) information from your TV for timer-programming on the recorder.

For details, refer to the instruction manual for your TV.

You can turn on the TV and set it to video mode automatically whenever you play a tape. For details, refer to the instruction manual for your TV.

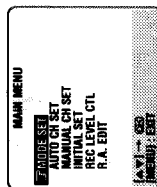
You can use your TV's remote control to turn off the recorder. For details, refer to the instruction manual for your TV.

You can start recording the programme that you are watching on your TV with simple operation. Press and hold **RECORD** and press **PLAY** on the remote control, or press **RECORD** on the recorder.

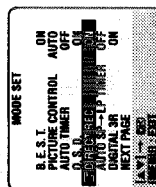
Press (b)/1

Press MENU.

Press $\Delta \nabla$ to move the highlight bar (pointer) to "MODE SET", then press OK or Δ .



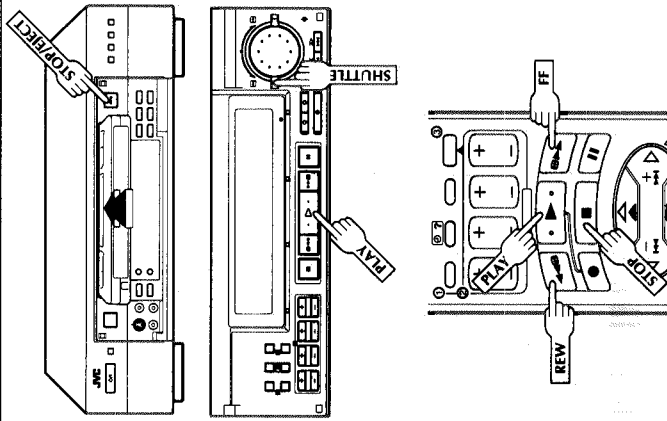
Press $\Delta \nabla$ to move the highlight bar (pointer) to "DIRECT REC", then press OK or $\triangleright$ to set to "ON".



Press **MENU**.

- If "DIRECT REC" is set to "OFF", the **RECORD** button functions as described in "Basic Recording" (pg. 22).
- During the Direct Rec, "—" appears on the display panel.
- When you perform T-V LINK functions, be sure to use the fully-wired 21-pin SCART cable.
- Retake function does not work during Direct Rec (pg. 24).

Basic Playback



- Some TVs shrink the picture vertically and place black bars at the top and bottom of the screen. This is not a malfunction on the part of either the video recorder or the TV.
- The picture may roll up and down. This can be corrected using the V-HOLD control found on some TVs. (This cannot be corrected if the TV does not have a V-HOLD control.)
- The counter and tape remaining time readings will be incorrect.
- During search, still, or frame-by-frame playback, the picture will be distorted, and there may be a loss of colour.
- Depending on the type of TV, the top and bottom portions of superimposed displays may be cut off during NTSC playback.

- * SECAM signals will be recorded as MESECAM on this recorder; MESECAM is the designation for tapes with SECAM signals that have been recorded on a MESECAM-compatible PAL video cassette recorder.

Press ψ/λ .

Press MENU.

Press $\Delta \nabla$ to move the highlight bar (pointer) to "MODE SET", then press OK or Δ .



MODE SET

PRESET	ON
AUTO TUNE CONTROL	AUTO
AUTO TUNER	OFF
C.S.B.	OFF
DIRECT REC.	ON
AUTO SP-1 P. TIMER	OFF
DIGITAL 3R	ON
NEXT PAGE	ON

PREVIOUS PAGE
POWER SAVE
PHOTO
VIDEO
SELECT
NOT SELECT
THE SCAN AUDIO

OFF
AUTO
VIDEO
SELECT
NOT SELECT
ON

LA-1 - 50
LA-1 - 50
LA-1 - 50

a- PAL/NTSC: To record PAL signals, or play back a PAL or NTSC tape.

b-MESECAM: To record SECAM signals, or play back a MESECAM tape.

Press MENU

LOAD A CASSETTE

Make sure the window side is up, the rear label side is facing you and the arrow on the front of the cassette is pointed toward the recorder. Don't apply too much pressure when inserting.

- The recorder power comes on automatically and the counter is reset to 0:00:00.
- If the record safety tab has been removed, playback begins automatically.

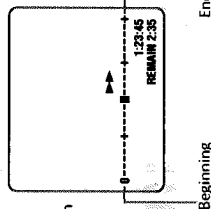
If the tape is advanced past the start point, press **REW** or turn the **SHUTTLE** ring to the left.
To go forward, press **FF** or turn the **SHUTTLE** ring to the right.

Press **PLAY**. "BEST" appears blinking in the recorder's display panel during automatic tracking. (☐ pg. 26)

Press **STOP** on the remote or **STOP/EJECT** on the recorder's front panel. Then press **STOP/EJECT** to remove the cassette.

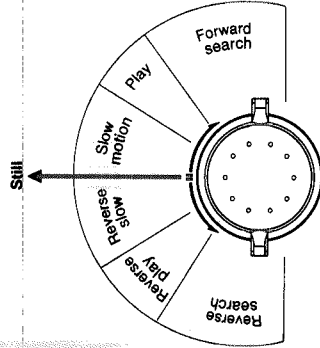
- Compact VHS camcorder recordings can be played on this video recorder. Simply place the recorded cassette into a VHS Cassette Adapter and it can be used just like any full-sized VHS cassette.
- This video recorder can record on regular VHS and Super VHS cassettes. While only VHS signals can be recorded on regular VHS cassettes, both VHS and Super VHS signals can be recorded and played back using Super VHS cassettes.

The tape position indicator appears on screen when, from the Stop mode, you press **FF**, **REW** or perform an Index Search. The position of "■" in relation to "0" (beginning) or "+" (end) shows you where you are on the tape.



Depending on the type of tape used, there may be times when the indication is not correct.

Playback Features



NOTES:

- Refer to the **SHUTTLE** ring illustration above as you read the following procedures.
- Reverse playback is possible only with a tape recorded in SP mode.

Still Picture/Frame-By-Frame playback

1 PAUSE DURING PLAYBACK

Press **PAUSE**.

- During still picture, the sound from the previous 3 seconds (approx.) will be played back repeatedly (provided there was at least 6 seconds of normal playback prior to engaging the still picture mode).
- "TIME SCAN AUDIO" must be set to "ON", or the sound will not be heard. (cf. pg. 21)

2 ACTIVATE FRAME-BY-FRAME PLAYBACK

Turn the **JOG** dial to the right for forward frame-by-frame playback, or to the left for reverse frame-by-frame playback.

Press **PAUSE**.

OR

Press **◀** or **▶**.

To resume normal playback, press **PLAY**.

Slow Motion

1 ACTIVATE SLOW-MOTION PLAYBACK

During playback or still, turn the **SHUTTLE** ring to the right for forward slow motion, or to the left for reverse slow motion (refer to the illustration on the left).

OR

During still picture, press and hold **PAUSE** for 2 seconds, then release. Press and release again to return to still picture.

OR

During still picture, press and hold **◀** or **▶**. Release to return to still picture.

To resume normal playback, press **PLAY**.

NOTE:

For Time Jog, see page 21.

High-Speed (Turbo) Search

1 ACTIVATE HIGH-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring all the way to the right for forward high-speed search, or to the left for reverse high-speed search. Releasing **SHUTTLE** resumes still picture playback.

OR

During playback or still, press **FF** for forward high-speed search, or **REW** for reverse high-speed search.

To resume normal playback, press **PLAY**.

NOTE:

For short searches, press and hold **FF** or **REW** for over 2 seconds during playback or still picture. When released, normal playback resumes.

ATTENTION

- The operations by **JOG** dial/**SHUTTLE** ring do not include TimeScan (cf. pg. 20).
- Picture may not appear during high-speed search with an LP-recorded tape.
- In the high-speed search, still, slow motion or frame by frame playback mode, the picture will be distorted, and there will be a loss of colour.
- When normal playback resumes from search, still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.

Variable-Speed Search

1 ACTIVATE VARIABLE-SPEED SEARCH

During playback or still, turn the **SHUTTLE** ring to the right for forward variable-speed search, or to the left for reverse variable-speed search (refer to the illustration on page 16).

To resume normal playback, press **PLAY**.

NOTE:

Variable-speed search with TimeScan (cf. pg. 20) can be used by pressing the remote control's **◀** or **▶** button.

Manual Tracking

Your video recorder is equipped with automatic tracking control. During playback, you can override this and adjust the tracking manually by pressing the **TV PROG** buttons.



1 OVERRIDE AUTOMATIC TRACKING

Press **III** on the remote to engage manual tracking.

2 ADJUST TRACKING MANUALLY

Press **TV PROG** + or - to adjust tracking.

3 RETURN TO AUTOMATIC TRACKING

Press **III** on the remote to re-engage automatic tracking.

NOTE:

When a new tape is inserted, the recorder enters the automatic tracking mode automatically.

Skip Search

1 SKIP OVER UNWANTED SECTIONS

Press **30 SEC** 1 to 4 times during playback. Each press initiates a 30-second period of fast-motion playback. Normal playback resumes automatically.

NOTE:

To return to normal playback during a Skip Search, press **PLAY**.

Index Search

Your recorder automatically marks index codes at the beginning of each recording. This function gives you quick access to any one of 9 index codes in either direction.

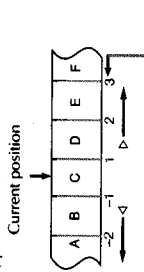
NOTE:

Before starting, make sure the recorder is in the Stop mode.

1 ACTIVATE INDEX SEARCH

Press **◀** or **▶** (◀◀ or ▶▶). "◀◀ 1" or "▶▶ 1" is displayed on screen and search begins in the corresponding direction.

- To access index codes 2 through 9, press **◀** or **▶** repeatedly until the correct index number is displayed. Ex.: To locate the beginning of B from the current position, press **◀** twice. To locate the beginning of D from the current position, press **▶** once.



- When the specified index code is located, playback begins automatically.

Manual Index Mark/Erase

To mark an index code...

- During playback press **INDEX MARK** on the recorder.
- The recorder will mark an index code at that location.
- If "O.S.D." is set to "ON" (cf. pg. 11), "MARK" blinks on the screen while an index code is being marked.

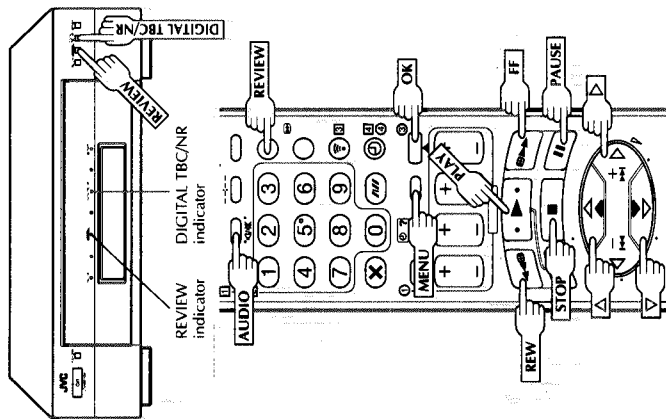
To erase an index code...

- During playback or still press **INDEX ERASE** on the recorder.
- The recorder will fast-forward to the nearest index code and erase it. Playback continues after the index code is erased.
- If "O.S.D." is set to "ON" (cf. pg. 11), "ERASE" blinks on the screen while an index code is being erased.

Next Function Memory

The Next Function Memory "tells" the recorder what to do after rewinding. Before continuing, make sure the recorder is in the Stop mode.

- a- For Automatic Start Of Playback After Tape Rewind ...
- ... press **REW**, then press **PLAY** within 2 seconds.
- b- For Automatic Power Off After Tape Rewind ...
- ... press **REW**, then press **⏻** within 2 seconds.
- c- For Automatic Timer Standby After Tape Rewind ...
- ... press **REW**, then press **⏻** (or **⏸** **TIMER**) within 2 seconds.



Digital 3R

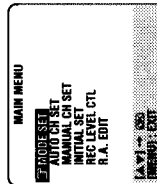
Digital 3R picture system applies edge correction to the luminance signal to enhance detail.

1 ACCESS MAIN MENU SCREEN

Press MENU.

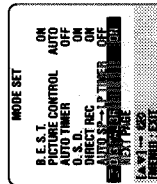
2 ACCESS MODE SET SCREEN

Move the highlight bar (pointer) to "MODE SET" by pressing Δ or ∇ , then press OK or $\triangleright$.



3 SELECT DIGITAL 3R SET MODE

Move the highlight bar (pointer) to "DIGITAL 3R" by pressing Δ or ∇ , then press OK or $\triangleright$ to set to "ON".



Digital TBC/NR

Your video recorder is equipped with the Digital TBC (Time Base Corrector) that removes jitter from fluctuating video signals to deliver a stable picture even with old tapes and rental cassettes.

The on/off of Digital 3-DNR (Noise Reduction) which cuts noise and enables clear picture reproduction is also linked to this function.

• The default setting is "ON".

We recommend that you use the Digital TBC feature when...

... playing back a tape recorded on a camcorder.

... playing back a tape repeatedly used.

... using this video recorder as the player for editing.

1 ACTIVATE DIGITAL TBC/NR

Press DIGITAL TBC/NR so that DIGITAL TBC/NR indicator lights up.

- To turn off DIGITAL TBC/NR, press DIGITAL TBC/NR again so that the indicator goes off.

NOTES:

- If you play back a tape recorded under poor TV reception condition, there may be cases where the picture becomes more stable with Digital TBC/NR set to off.
- When Digital TBC/NR is set to on, if you play back a tape where certain types of signals are recorded (using a PC or some character generators), the playback picture may be distorted. If this is the case, turn off Digital TBC/NR.
- When playing back a MSECAM tape, Digital TBC/NR does not function even though the indicator is lit.

Repeat Playback

Your video recorder can automatically play back the whole tape 50 times repeatedly.



1 START PLAYBACK

Press PLAY.

2 ACTIVATE REPEAT PLAYBACK

Press PLAY and hold for over 5 seconds, then release.

- The Play indicator (▶) on the display panel blinks slowly.
- The tape plays 50 times automatically, and then stops.

3 STOP PLAYBACK

Press STOP at any time to stop playback.

NOTE:

Pressing PLAY, REW, FF or PAUSE also stops Repeat Playback.

Instant ReView

Simply by pressing a single button, the recorder power comes on, rewinds, and begins playback of the last timer-recorded programme. If you have several programmes recorded, you can easily access any of them.

NOTE:

Before starting, make sure that the recorder is off and that the Timer mode is disengaged.

1 ACTIVATE INSTANT REVIEW

Press REVIEW. The recorder power comes on and the recorder searches for the index code indicating the start of the last timer-recorded programme. Once it's found, playback begins automatically.

- The front display panel tells you how many programmes have been timer-recorded. If you have, for example, 3 programmes, "REVIEW" and "3" appear and blink. The REVIEW indicator on the recorder also blinks. To watch the first of the 3 programmes, press REVIEW three times. The recorder searches and begins playback automatically. You can access a programme as far as 9 index codes away from the current tape position.

NOTES:

- Instant ReView is not possible while the recorder is in the Timer mode.
- The number of recorded programmes will not be displayed on the front display panel after Auto Satellite Prog recording (see pg. 35).

Soundtrack Selection

Your video recorder is capable of recording three soundtracks (HI-FI L, HI-FI R and NORM) and will play back the one you select.

During Playback

Pressing AUDIO on the remote control or AUDIO MONITOR on the recorder changes the soundtrack being played back as follows:

TRACK		USE
Recorder's Front Panel	On-Screen Display	
[HI-FI L] + [HI-FI R]	HI-FI L R	For HI-FI stereo tapes
[HI-FI L]	HI-FI L	For main audio of Bilingual tapes
[HI-FI R]	HI-FI R	For sub audio of Bilingual tapes
NORM	NORM	For audio-dubbed tapes
[HI-FI L] + NORM	HI-FI L NORM	For audio-dubbed tapes

NOTES:

- [HI-FI L] + [HI-FI R] should normally be selected. In this mode, HI-FI stereo tapes are played back in stereo, and the normal audio track is played back automatically for tapes with only normal audio.
- For instructions on recording stereo and bilingual programmes, refer to page 25.
- "O.S.D." must be set to "ON" or the on-screen displays will not appear (see pg. 11).

TimeScan

Your recorder is equipped with the TimeScan function. TimeScan allows noise free pictures to be displayed on your TV screen in the forward and reverse search modes. Audio will be played back at normal speed during the TimeScan modes (E7 pg. 21). TimeScan also allows you to view a programme in search mode while listening to the audio.

NOTES:

- "TIME SCAN AUDIO" must be set to "ON", or the sound will not be heard in TimeScan mode. (E7 pg. 21)
- The audio will not synchronize with the video in TimeScan modes.
- During 1.5x speed TimeScan the audio playback speed will also be 1.5 times normal, so dialog will sound fast-talking.
- In Pause mode, 3 seconds (approx.) of audio will be played back repeatedly. (E7 pg. 16)
- In TimeScan search modes some of the audio information will not be played so that the audio can keep up with the video.

Audio signal during TimeScan



Playback tape

Sound of ①, ③ and ⑤ is heard.

Output audio signal is normal (monaural) sound.

Variable-Speed Search

ACTIVATE VARIABLE-SPEED SEARCH

During playback, press < or >.

- The more times you press, the faster the playback picture moves.
- To decrease speed, press the button for the opposite direction.

(Refer to the chart on page 21 for playback speeds).

To resume normal playback, press **PLAY**.

If the picture jitters vertically during still or variable-speed search with a MESECAM tape:

- 1 Press **PAUSE**.
- 2 Press **TV PROG + or -** so that the vibration stops.

TimeScan

Names of special-effects playback	Reverse		Forward	
	Search	Play	Slow-Motion (Time Log**)	Still
Speed SP	-9x, -7x, -5x, -3x	-1x	-1/2x, -1/3x	0
Speed LP	-7x, -5x, -3x	-1x	-1/2x, -1/3x	0
Audio output	Audio is output.	Audio is output.	Audio is not output.	Audio is output.

* Still mode cannot be engaged using the remote control's < or > button. Still mode can be engaged by pressing the **PAUSE** button.

** Smooth slow motion delivering an uninterrupted moving image without distortion.

- If the picture jitters vertically, noise appears or the upper or lower part of the picture is distorted at -1/2x, -1/3x, 1/3x, 1/2x or 1.5x normal speed, use **TV PROG + or -** to correct the picture.
- When noise appears or the upper or lower part of the picture is distorted during TimeScan search, press **III** and adjust tracking with **TV PROG + or -** button.
- The speed is shown during TimeScan in the upper right corner of the TV screen for approx. 5 seconds. (The display may be distorted.)
- To resume normal playback, press **PLAY**.
- Picture and audio may become distorted when the recording speed changes. When this happens, resume normal playback once, and then try using TimeScan again.
- The picture may be noisy or there may be a loss of colour when you change the playback speed. (More noise will appear with LP recordings.)
- Noise may appear or the upper part of the picture may be distorted during still, frame-by-frame playback, 2x search of LP recordings, or depending on the tape being used.
- Picture may appear distorted in comparison to normal playback.
- When normal playback resumes from search (including TimeScan), still, slow motion or frame-by-frame playback, the picture may jitter vertically momentarily depending on the type of TV being used.
- Depending on the tape in use, noise may appear or the upper part of the picture may be distorted.
- In TimeScan mode there will be a time lag between the video and the audio and noise may appear in the audio signal.
- TimeScan sound quality will differ in comparison to normal playback.
- When material such as music videos where there is non-stop sound (very few breaks in the soundtrack) are viewed at 1.5x or 2x normal speed, the audio playback may be faster than normal.
- Depending on the type of tape contents, the sound may not be clear during forward slow-motion playback.
- Time log cannot be activated by pressing **PAUSE** for longer than 2 seconds.
- When the playback direction is reversed, it takes approximately 6 seconds until sound is heard.
- Picture will be monochrome with an LP-recorded MESECAM tape during TimeScan.
- TimeScan does not work with NTSC playback.
- TimeScan at -1/2x, 1/2x and 1.5x normal speed are not possible with a MESECAM tape.
- The operations by **JOG** dial/**SHUTTLE** ring do not include TimeScan; noise will appear on the screen and audio will not be output.

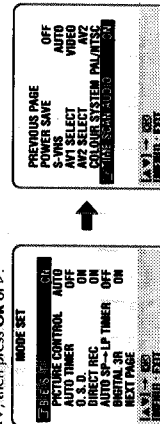
If you don't want to hear TimeScan audio, set "TIME SCAN AUDIO" to "OFF" (See below).

TimeScan Audio

The audio output can be set ON/OFF during TimeScan. Select ON/OFF as required.

* The default setting is "ON".

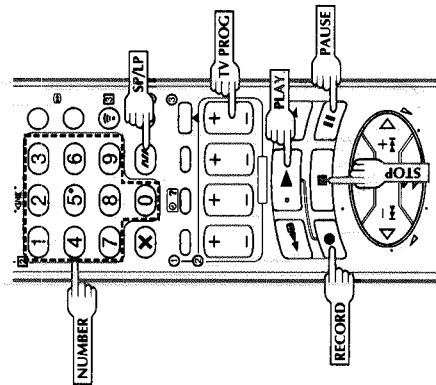
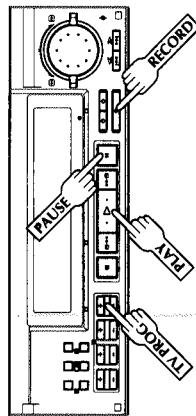
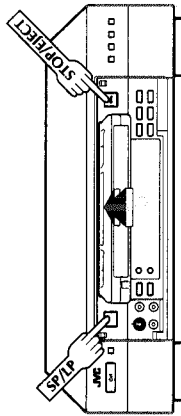
- 1 Press **MENU** to access the Main Menu screen.
- 2 Move the highlight bar (pointer) to "MODE SET" by pressing **Δ**, then press **OK** or **▷**.
- 3 Move the highlight bar (pointer) to "TIME SCAN AUDIO" by pressing **Δ**, then press **OK** or **▷** to select "ON" or "OFF".



- 4 Press **MENU** to return to the normal screen.

Basic Recording

Turn on the TV and select the VIDEO channel (or AV mode).



Recording Resume Function

If there is a power outage during recording (or Instant Timer Recording or timer recording), the recording will resume automatically when power is restored to the recorder unless the recorder's memory backup has expired.

TV signals being received by the recorder's built-in tuner can be recorded onto a video tape. You can "capture" a TV programme using your video recorder.

1 LOAD A CASSETTE

Insert a cassette with the record safety tab intact.

- The counter is reset to 0:00:00 and the recorder power comes on automatically.

2 CHOOSE A PROGRAMME

Press TV PROG +/- or the NUMBER keys to select the channel you wish to record.

3 SET TAPE SPEED

Press SP/LP (III). Check the SP/LP indicator on the recorder display panel to confirm the selected tape speed.

4 START RECORDING

Press and hold RECORD and press PLAY on the remote control, or press RECORD on the recorder.

B.E.S.T. takes place at the beginning of both the first SP and the first LP recording after inserting the cassette (see pg. 26).

If "DIRECT REC" is set to "ON", the programme that appears on the TV screen will be recorded (see pg. 13).

5 PAUSE/RESUME RECORDING

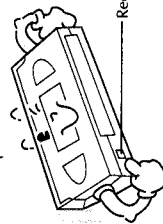
Press PAUSE. Press PLAY to resume recording.

6 STOP RECORDING

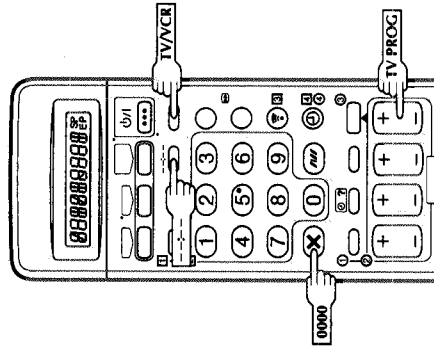
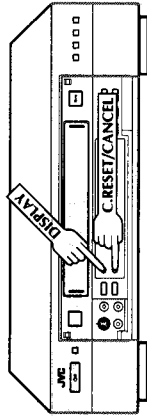
Press STOP on the remote control or STOP/EJECT on the recorder. Then press STOP/EJECT to remove the cassette.

Accidental erasure prevention

- To prevent accidental recording on a recorded cassette, remove its safety tab. To record on it later, cover the hole with adhesive tape.



Recording Features



Instant Timer Recording (ITR)

This easy method lets you record for from 30 minutes to 6 hours (selectable in 30-min. increments), and shuts the recorder off after recording is finished.

1 START RECORDING

Press RECORD on the recorder.

2 ENGAGE ITR MODE

Press RECORD again. "ON" blinks and 0:30 appears on the front display panel.

3 SET RECORDING DURATION

If you want to record for more than 30 minutes, press RECORD to extend the time. Each press extends recording time by 30 minutes.

NOTE:

You can only perform ITR using the RECORD button on the recorder's front panel.

Record One Programme While Watching Another

If your recorder is connected to the TV via AV connection, ... press TV/VCR. The recorder's VCR indicator and the TV broadcast being recorded disappear.

1 SELECT CHANNEL TO WATCH

Once recording is in progress, all you need to do is to set the channel controls on the TV for the station you wish to view.

- The programme selected with the TV's channel controls appears on the TV screen while the one recorded with the recorder's TV PROG buttons is recorded on the tape.
- If a decoder is connected to the recorder (see pg. 54), you can select a scrambled channel as well with the TV channel controls.

Elapsed Recording Time Indication

You can check the exact time of a recording.

1 SET COUNTER DISPLAY

Press -- -- (or DISPLAY) until a counter reading appears on the display panel.

2 RESET COUNTER

Press 0000 (or C-RESET/CANCEL) before starting recording or playback.

- The counter is reset to "0:00:00" and shows the exact elapsed time as the tape runs.

Tape Remaining Time

1 DISPLAY REMAINING TIME

Press -- -- (or DISPLAY) until the time remaining on the tape appears.

- The display panel shows the tape remaining time with "00" displayed.
- By pressing the -- -- (or DISPLAY) button, you can change the display to show the counter reading, channel position*, clock time or tape remaining time.
- * channel position is not displayed during playback.

NOTE:

Depending on the type of tape used, there may be times when the tape remaining time reading may not appear right away, or is not correct. "00" may sometimes appear, or the display may blink on occasion.

S-VHS (Super VHS) and VHS

Your recorder can record in either S-VHS or VHS.

To record in S-VHS:

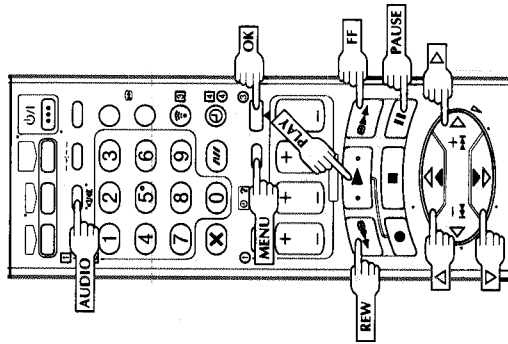
Perform the steps 1 - 4 below to set "S-VHS" to "AUTO". Then, insert a cassette marked "S-VHS"; the S-VHS indicator will light on the display panel. The S-VHS recording mode will be selected.

To record in VHS:

Insert a cassette marked "VHS". The VHS recording mode will be automatically selected regardless of the S-VHS mode setting.

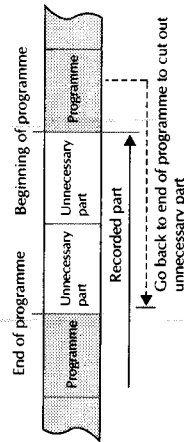
To record in VHS on an S-VHS cassette:

Insert the cassette marked "S-VHS"; the S-VHS indicator will light on the display panel. Then, perform the steps 1 - 4 below to set the "S-VHS" to "OFF"; the S-VHS indicator will go out. The VHS recording mode will be selected.



Retake

You can cut out unnecessary parts of a TV programme while you're recording it.



ENGAGE RECORD-PAUSE MODE

Press PAUSE during recording.

LOCATE START POINT

Turn the JOG dial to the left or right (or hold down REW or FF) and release it when you reach the point where you want to resume recording.

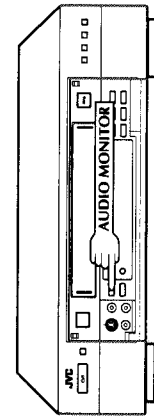
* Your recorder returns to the Record-Pause mode.

RESUME RECORDING

Press PLAY when you wish to resume recording.

NOTE:

Retake function does not work during Direct Rec (p. 13).



Hi-Fi Audio Recording Level Control

Your recorder allows manual adjustment of the Hi-Fi audio recording level.

1 ACCESS MAIN MENU SCREEN

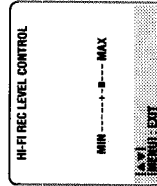
Press MENU.

2 ACCESS HI-FI REC LEVEL CONTROL SCREEN

Press Δ or ∇ to move the highlight bar (pointer) to "REC LEVEL CTL", then press OK or $\triangleright$.

3 ADJUST AUDIO RECORDING LEVEL

Press Δ or ∇ .



* Press Δ or ∇ briefly 5 times to move the on-screen's audio levels by one division on the scale. To move the audio levels faster, keep Δ or ∇ pressed.

* Adjust the recording level while watching the recorder's audio level meters. Set the level so that maximum volume causes the meters to vary between 0dB to 4dB.

4 RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

- Noise will increase if the recording level is too low, while distortion will increase if the level is too high.
- When you finished Hi-Fi Audio recording, be sure to set the level control back to its centre position.

Receiving Stereo And Bilingual Programmes

Your recorder is equipped with a Sound-Multiplex decoder (A2) and a Digital stereo sound decoder (NICAM) making reception of stereo and bilingual broadcasts possible.

When the channel is changed, the type of broadcast being received will be displayed on the TV screen for a few seconds.

Type of Broadcast Being Received	On-screen Display
A2 Stereo	ST
A2 Bilingual	BIL
Regular Monaural	(none)
NICAM Stereo	ST NICAM
NICAM Bilingual	BIL NICAM
NICAM Monaural	NICAM

* To listen to a stereo programme, press **AUDIO** (or **AUDIO MONITOR**) until $\left[\text{ST} \right]$ and $\left[\text{A2} \right]$ appear on the front display panel or $\left[\text{HI-FI L} \right]$ and $\left[\text{R} \right]$ appears on the screen.

* To listen to a bilingual programme, press **AUDIO** (or **AUDIO MONITOR**) until $\left[\text{BIL} \right]$ or $\left[\text{A2} \right]$ appears on the front display panel, or $\left[\text{HI-FI L} \right]$ or $\left[\text{R} \right]$ appears on the screen (as required).

* To listen to the Standard (regular monaural) audio while receiving a NICAM broadcast, press **AUDIO** (or **AUDIO MONITOR**) until "NORM" appears on the front display panel or on the screen.

NOTE:

"O.S.D." must be set to "ON" or the on-screen displays will not appear (p. 11).

To Record Stereo And Bilingual Programmes (A2)

- Stereo programmes are automatically recorded in stereo on the Hi-Fi audio track (with the normal audio track recording mixed L and R channel sound).
- Bilingual programmes are automatically recorded in bilingual on the Hi-Fi audio track. The main soundtrack will be recorded on the normal audio track.

To Record NICAM Stereo And Bilingual Programmes

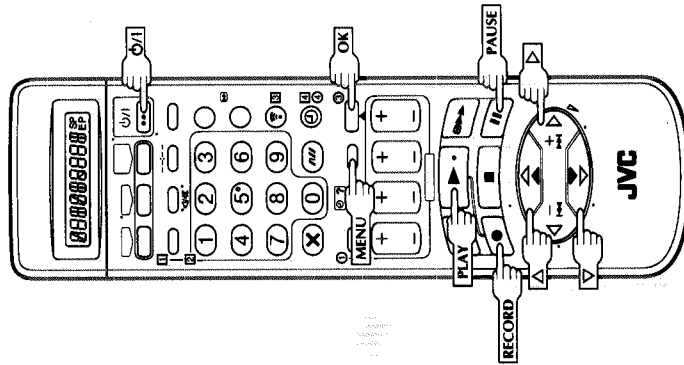
The NICAM audio programme will be recorded on the Hi-Fi audio track, and the Standard audio programme on the normal audio track.

NOTES:

- If the quality of stereo sound being received is poor, the broadcast will be received in monaural with better quality.
- Before playing back a programme recorded in stereo, or a bilingual programme, refer to "Soundtrack Selection" (p. 19).

B.E.S.T. Picture System

Turn on the TV and select the VIDEO channel (or AV mode).



The **PLAY**, **RECORD**, and **PAUSE** buttons on the recorder have the same function as those on the remote control.

The B.E.S.T. (Biconditional Equalised Signal Tracking) system checks the condition of the tape in use during recording and playback, and compensates to provide the highest possible recording and playback pictures. The default setting for both recording and playback is "ON".

Preparation

1 TURN ON THE RECORDER

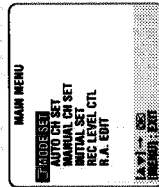
Press **ON**.

2 ACCESS MAIN MENU SCREEN

Press **MENU**.

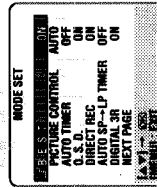
3 ACCESS MODE SET SCREEN

Press **Δ**/**∇** to move the highlight bar (pointer) to "MODE SET", then press **OK** or **▶**.



4 SELECT B.E.S.T. MODE

Press **Δ**/**∇** to move the highlight bar (pointer) to "B.E.S.T.", then press **OK** or **▶** to set to "ON" or "OFF".



5 RETURN TO NORMAL SCREEN

Press **MENU**.

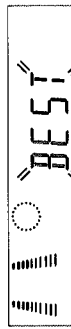
Recording

1 START RECORDING

Press and hold **RECORD** and press **PLAY** on the remote, or press **RECORD** on the recorder.



B.E.S.T. COMPLETE



• The recorder spends approximately 7 seconds assessing the condition of the tape; then begins recording.

NOTES:

- The B.E.S.T. system works for both SP and LP modes only after a tape has been inserted and the Record mode is initiated. It does not work during recording.
- The B.E.S.T. system does not work while Auto Satellite Prog recording is in progress (pg. 35).
- In the case of timer recording, the B.E.S.T. system works before recording is initiated.
- Once the cassette is ejected, the B.E.S.T. data is cancelled. The next time the cassette is used for recording, B.E.S.T. is re-performed.
- Pressing the recorder's **RECORD** button while "B.E.S.T." is displayed does not start Instant Timer Recording (pg. 23).

ATTENTION

Since the B.E.S.T. system works before recording actually starts, there is a delay of approximately 7 seconds after **RECORD** and **PLAY** on the remote are pressed, or **RECORD** on the recorder is pressed. To make sure you record the desired scene or programme in its entirety, first perform the following steps:

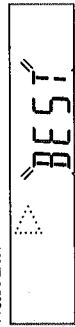
- 1) Press and hold **PAUSE** and press **RECORD** to engage the **RECORD PAUSE** mode.
 - The recorder then automatically checks the condition of the tape and, after approximately 7 seconds, re-enters **RECORD PAUSE**.
- 2) Press **PLAY** to start recording.
 - If you want to bypass the B.E.S.T. system and begin recording immediately, set "B.E.S.T." to "OFF" in step 4 on page 26.

Playback

The recorder assesses the quality of the tape once you initiate playback.

1 START PLAYBACK

Press **PLAY**.



- The recorder adjusts the playback picture quality based on the quality of the tape in use.
- B.E.S.T. is active during Auto Tracking. "B.E.S.T." appears blinking on the recorder's display panel.

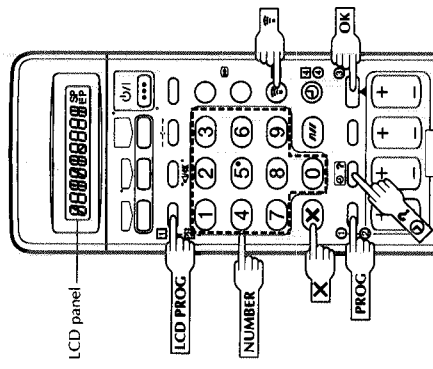
NOTES:

- When watching a tape recorded with "B.E.S.T." set to "ON", it is recommended that you leave B.E.S.T. on during playback as well.
- When watching a rental tape or one recorded on another video recorder, or when using this recorder as the player for editing, set B.E.S.T. to your preference by performing steps 1 through 5 on page 26.
- "B.E.S.T." only appears at the beginning of automatic tracking. Even though it doesn't appear after that, the B.E.S.T. function is operative.

SHOWVIEW Timer Programming

Before performing ShowView Timer Programming:

- Make sure that the recorder's built-in clock is set properly.
- Insert a cassette with the safety tab in place. The recorder will come on automatically.
- Turn on the TV and select the VIDEO channel (or AV mode).

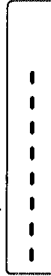


You can use the remote control with LCD panel to enter the ShowView number.

1 ACCESS SHOWVIEW DISPLAY

Press LCD PROG.

The LCD panel looks like this:

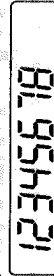


2 ENTER SHOWVIEW NUMBER

Press the NUMBER keys to enter the ShowView number of a programme you wish to record, then press **OK**.

- If you make a mistake, press **X** and input the correct number.

The ShowView number you enter appears on the LCD panel:

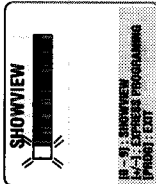


Then go to step 3 in the right column.

With ShowView, timer programming is greatly simplified because each TV programme has a corresponding code number which your recorder is able to recognize.

1 ACCESS SHOWVIEW SCREEN

Press PROG.



The front display panel looks like this:

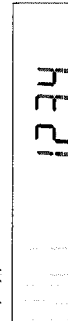


2 ENTER SHOWVIEW NUMBER

Press the NUMBER keys to enter the ShowView number of a programme you wish to record, then press **OK**.

- If you make a mistake, press **X** and input the correct number.

The ShowView number you enter appears on the front display panel:

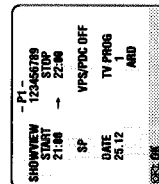


The display panel can show only a 4-digit number.

3 ACCESS SHOWVIEW PROGRAM SCREEN

The ShowView Program screen appears (if you're just starting out, "P1" appears).

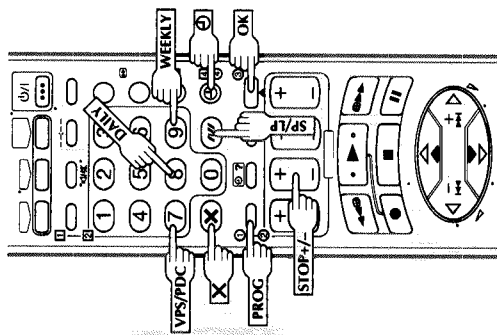
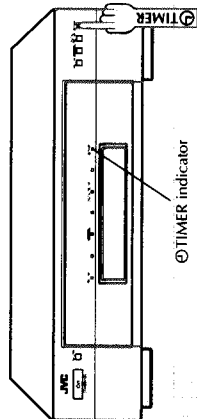
The display panel shows the programme start time. Pressing **OK** changes the display to the programme stop time, then the date and channel position.



IMPORTANT

Make sure the channel position number you wish to record is displayed; if not, see "ShowView Setup" on page 66 and set the Guide Program number for that ShowView number correctly.

- If the number you entered is invalid, "ERROR" appears on the screen and "Err" appears on the display panel. Press **X** and input a valid ShowView number.
- If the "GUIDE PROG SET" screen appears, see "ATTENTION - Regarding Guide Program Number Set" on page 29.



4

SET TAPE SPEED

Press **SP/PLP (III)** to set the tape speed.

5

SET VPS/PDC MODE

Press **VPS/PDC** to select "ON" or "OFF".
If "VPS/PDC ON" is displayed on the screen or "VPS/PDC" is lit on the display panel, **VPS/PDC** is set to ON.
If "VPS/PDC OFF" is displayed on the screen or "VPS/PDC" is not lit on the display panel, **VPS/PDC** is set to OFF.
See "VPS/PDC Recording" on page 31.

6

RETURN TO NORMAL SCREEN

Press **PROG** or **OK**. "PROGRAM COMPLETED" appears on the screen for about 5 seconds, then normal screen appears.

- Repeat steps 1 - 6 for each additional programme.

7

ENGAGE RECORDER'S TIMER MODE

Press **OK** (or **TIMER**). The recorder turns off automatically and **OK** appears on the display panel. The **TIMER** indicator on the recorder also lights up.

- To disengage the timer, press **OK** (or **TIMER**) again.

NOTES:

- To Change The Stop Time ... press **STOP** +/- in step 3. You can compensate for anticipated programme schedule delays this way.
- To Timer-Record Weekly Or Daily Serials ... in step 3, press **WEEKLY** (NUMBER key "9") for weekly serials or **DAILY** (NUMBER key "8") for daily serials (Monday - Friday). Either "WEEKLY" or "DAILY" appears on the screen. Pressing the button again makes the corresponding indication disappear.
- You can programme this recorder to timer-record as many as 8 programmes. If you try to programme the recorder to record a ninth, "PROGRAM FULL" appears on screen and "FULL" appears on the front display panel. To record the extra programme, you must first cancel any unnecessary programmes (see pg. 32).
- It is not possible to timer-record a TV programme with a ShowView number which starts with "0".

Timer Warning

If you have programmed your recorder to timer-record a programme or a series of programmes, a warning appears on screen to tell you that the recording is to start in 5 minutes.

NOTES:

- The warning only appears if you're not in the Timer mode at that time.
- If this recorder is being used as the player for tape dubbing, the warning screen is recorded on the tape in the other video recorder.

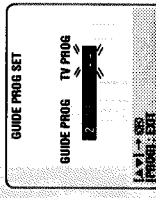
The warning blinks for the entire 5 minutes, leading up to the start of timer recording. To clear the display, press **X**.

ATTENTION

Regarding Guide Program Number Set

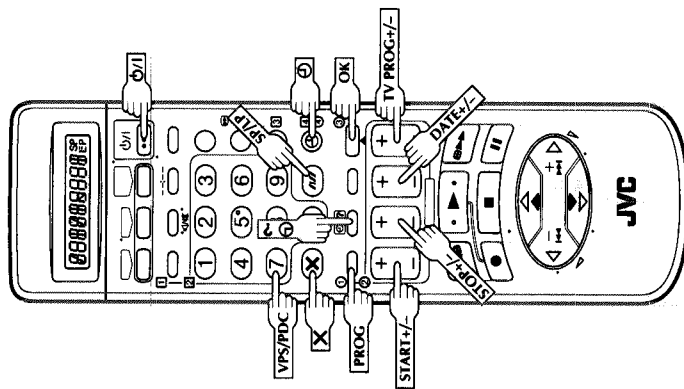
"GUIDE PROG SET" appears after performing step 3 if the Guide Program number for the ShowView number you entered has not been set.

- Press the **NUMBER** keys or **Δ/V** to input the channel position number on which your recorder receives that station, then press **OK** or **P** to set the Guide Program number. The ShowView program screen appears.



(Ex.) To timer-record a ZDF programme with ShowView.
* If your recorder receives ZDF on the channel position 2, press **OK** or **P** after entering "2".

Check, Cancel And Replace Programmes



1 DISENGAGE TIMER MODE

Press $\odot$ (or $\odot$ TIMER), then press ∇ /I.

2 ACCESS PROGRAM CHECK SCREEN/DISPLAY

Press $\odot$ 7.

PR	START	STOP	CH	DATE
1	8:00	10:00	3	24.12
2	10:00	10:45	2	25.12
3	11:30	13:00	1	25.12
4				
5				
6				
7				
8				

PIPB

3 ACCESS PROGRAM SCREEN/DISPLAY

Press $\odot$ 7 again to check more information. Each time you press $\odot$ 7, the next programme's information appears.

START	STOP	CH	DATE
8:00	10:00	3	24.12
10:00	10:45	2	25.12
11:30	13:00	1	25.12

8:00 P1

- The display panel shows the programme start time. Pressing OK changes the display to the programme stop time, then the date and the channel position.

To cancel or replace a programme...

CANCEL OR REPLACE A PROGRAMME

Press $\times$ (or C.RESET/CANCEL) to cancel a programme. To replace a programme, press the appropriate button: **START +/-**, **STOP +/-**, **DATE +/-**, **TV PROG +/-**, **VPS/PDC**, **SP/TP (IIR)**.

RETURN TO NORMAL SCREEN/DISPLAY

Press $\odot$ 7 as many times as necessary. If there are still some programmes remaining, go on to step 6.

RETURN TO TIMER MODE

Press $\odot$ (or $\odot$ TIMER).

NOTE:

You can also check the programmes on the display panel even if the recorder's power is off (unless the recorder is in the Power Save mode $\square$ pg. 12) or the recorder is in the Timer mode; however, it is not possible to cancel or replace the programmes.

Auto SP $\rightarrow$ LP Timer

If, when timer-recording in SP mode, there is not enough tape to record the entire programme, the recorder automatically switches to LP mode to allow complete recording.

For Example...

Recording a programme of 210 minutes in length onto a 180-minute tape

SP mode	LP mode
Approximately 150 minutes	Approximately 60 minutes
Total 210 minutes	

Make sure you set "AUTO SP $\rightarrow$ LP TIMER" to "ON" at the Mode Set screen before the timer-recording starts.

ACCESS MAIN MENU SCREEN

Press MENU.

ACCESS MODE SET SCREEN

Press Δ / ∇ to move the highlight bar (pointer) to "MODE SET", then press OK or $\triangleright$.

SELECT MODE

Press Δ / ∇ to move the highlight bar (pointer) to "AUTO SP $\rightarrow$ LP TIMER", then press OK or $\triangleright$ to select "ON".

MODE SET	ON
PAUSE CONTROL	ON
AUTO TIMER	ON
D.S.D.	ON
DIRECT REWIND	ON
INSTANT SP	ON
NEXT PAGE	ON
PROGRAM: EXIT	ON

RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

- If you have programmed the recorder to timer-record 2 or more programmes, the second programme and those thereafter may not fit on the tape if you set "AUTO SP $\rightarrow$ LP TIMER" to "ON". In this case, make sure the mode is not engaged, then set the tape speed manually during timer programming.
- In order to ensure that the recording fits on the tape, this feature may leave a slight non-recorded section at the end of the tape.
- There may be some noise and sound disturbance at the point on the tape where the recorder switches from SP to LP mode.
- The Auto SP $\rightarrow$ LP Timer feature is not available during ITR (Instant Timer Recording), and the feature will not work properly with any tapes longer than E-180 or with some tapes of shorter lengths.
- If you perform timer recording with both VPS/PDC and the Auto SP $\rightarrow$ LP Timer activated, and the programme goes beyond its originally scheduled length, there may be times when the programme cannot be recorded in its entirety.

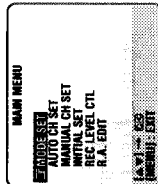
When the Auto Timer is set to ON the timer is automatically engaged when the recorder power is turned off and automatically disengaged when the recorder is powered back on.

ACCESS MAIN MENU SCREEN

Press MENU.

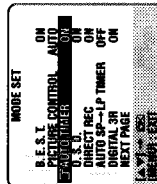
ACCESS MODE SET SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "MODE SET", then press OK or $\triangleright$.



SELECT MODE

Press $\Delta \nabla$ to move the highlight bar (pointer) to "AUTO TIMER", then press OK or $\triangleright$ to select either "ON" or "OFF".

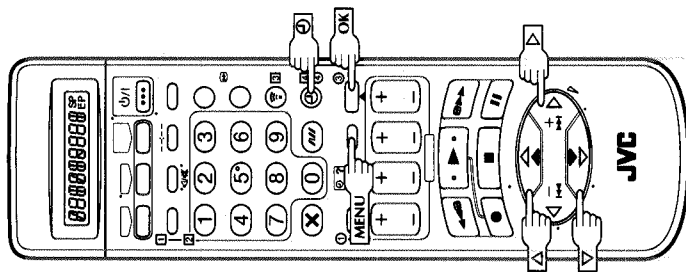


RETURN TO NORMAL SCREEN

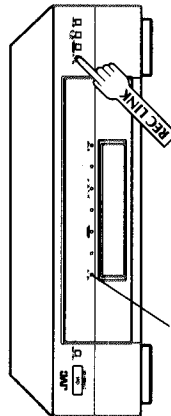
Press MENU.

NOTE:

For safety, when Auto timer is set to "OFF", all other recorder functions are disabled while the Timer mode is engaged. To disengage the timer, press **⊕** (or **⊖** **TIMER**).



Automatic Satellite Programme Recording



REF LINK indicator

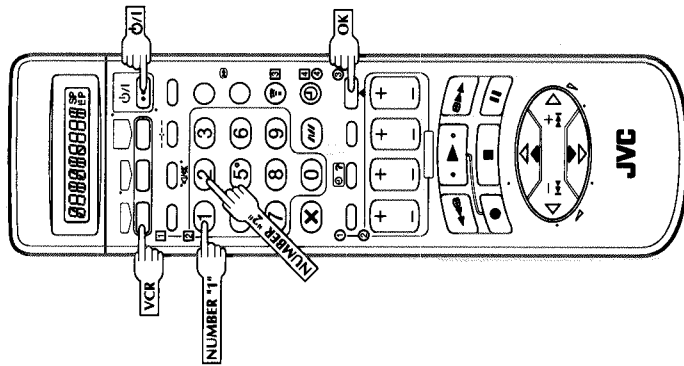
ATTENTION

- Be sure not to turn on the satellite tuner before the programme is executed; otherwise, the recorder will start recording when the satellite tuner's power is turned on.
- If you have connected another appliance other than a satellite tuner to the AV2 INDECODER connector, be sure not to engage the Auto Satellite Prog. Rec. mode; otherwise, the recorder will start recording when the connected appliance's power is turned on.
- Auto Satellite Prog. recording and timer-recording cannot be done at the same time.

NOTES:

- Auto Satellite Prog recording is possible with the AV2/INDECODER connector only. (☞ pg. 51, 52)
- For timer programming of the satellite tuner, refer to the instruction manual of the satellite tuner.
- Auto Satellite Prog recording is not possible if your satellite tuner does not have a timer.
- The REC LINK indicator blinks while Auto Satellite Prog recording is in progress.
- Pressing the recorder's **Q11** button while Auto Satellite Prog recording is in progress turns off the recorder's power and disengage the Auto Satellite Prog Rec mode.
- If there are more than one satellite programme you wish to record with Auto Satellite Prog Recording, it is not possible to set the different tape speed per each; the tape speed selected in step 2 will be applicable to all the programmes for Auto Satellite Prog recording.
- The B.E.S.T. system (☞ pg. 26) does not work while Auto Satellite Prog recording is in progress.
- Just Clock (☞ pg. 64) does not work when the Auto Satellite Prog Rec mode is engaged.
- Depending on the type of satellite tuner, the recorder may not record a slight portion of the beginning of the programme or may record slightly longer than the actual length of the programme.
- If you engage the Auto Satellite Prog Recording mode when the satellite tuner's power is on, the recorder will not start Auto Satellite Prog recording even though the REC LINK indicator blinks. When the satellite tuner shuts off once and is turned back on again, the recorder starts recording.
- When the Auto Satellite Prog Rec mode is engaged or the recorder's power is turned off after Auto Satellite Prog recording is finished, the recorder will not enter the Timer mode even though "AUTO TIMER" is set to "ON".
- After Auto Satellite Programme recording, the number of recorded programmes will not be displayed on the front display panel for the Instant Re-View function (☞ pg. 19).
- You can also record a programme from your cable system in the same way if the system has a timer.
- When you press and hold the recorder's **REC LINK** button to engage the Auto Satellite Prog Rec mode, if the REC LINK indicator does not light but instead blinks quickly even though your satellite tuner's power is off, Auto Satellite Prog Recording will not work properly with that satellite tuner.
- If this is the case, perform "Express Timer Programming" (☞ pg. 30) to timer-record a satellite programme.
- Some satellite tuners output signals even if the power is off. Auto Satellite Prog Recording is not possible with those satellite tuners.

Remote Control Functions



Remote A/B Code Switching

The remote control is capable of controlling two JVC video recorders independently; one set to respond to the remote control's A code signals and another set to respond to B code signals. The remote control is preset to send A code signals because your video recorder is initially set to respond to A code signals. You can easily modify your video recorder to respond to B code signals.

1 REMOVE POWER SUPPLY

Unplug the mains power cord from the mains outlet.

2 SET REMOTE CONTROL CODE

Press and hold **VCR** on the remote control for over 2 seconds, press the **NUMBER** key "2" and then press **OK**.

3 RE-SUPPLY POWER

Plug the mains power cord back into the mains outlet.

4 TURN THE RECORDER ON

Press **TV/PROG** on the remote control. The recorder will now only respond to B code signals.

NOTE:

To set the recorder back to respond to A code signals, repeat the same procedure as shown above except pressing **NUMBER** key "1" instead of "2" in step 2.

TV Multi-brand Remote Control

Your remote control can operate the basic functions of your TV set. In addition to JVC TVs, other manufacturer's TVs can also be controlled.

Before you start . . .

- Turn off the TV using its remote control.

1 SET TV BRAND CODE

Refer to the chart below. Press and hold **TV** on the recorder's remote control for over 2 seconds, enter your TV's brand code using the **NUMBER** keys, then press **OK**.

Check if the TV's power goes on as it should. If it does, try other operations (see step 2).

- Once you have set the remote control to operate the TV, you don't have to repeat this step until you replace your remote control's batteries.
- JVC or SAMSUNG has more than one code. If the TV does not function with one code, try entering another.

2 OPERATE TV

First, press **TV** to set the remote control to TV mode, then press the corresponding button: **TV/PROG** + **TV**, **TV/PROG** + **TV**, **TV/PROG** + **TV** (Volume), **TV/PROG** (Muting), **NUMBER** keys.

- For some brands of TV, you must press **OK** after having pressed the **NUMBER** keys.

IMPORTANT

Although the provided remote control unit is compatible with JVC televisions, as well as many other models, it may not work with your TV or in some instances, may have limited function capability.

Control Your TV Using Additional Buttons

Use the **NUMBER** keys, and the **TV/PROG** button, **X** button or **TV/PROG** button to select the TV's channel.

- With televisions under Code 01, 02, 07, 10, 11, 14, 20, 23, 24, 25, 27, 33 or 35, the **TV/PROG** button corresponds to the 1-digit/2-digit entry switching button (often labelled - / -) of your TV's remote control.
- With televisions under Code 01, 28, 29 or 34, the **X** button corresponds to the 10 + button, and the **TV/PROG** button corresponds to the 20 + button of your TV's remote control.

NOTE:

The way these buttons are used is determined by your TV. Use these buttons as instructed for your TV's remote control.

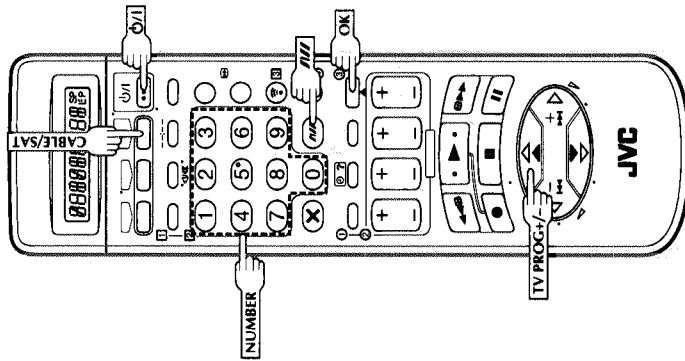
TV BRAND NAME	CODE
JVC	01, 23, 24, 25
DAUPUNKT	19
BRANDT	26
FRIGOSON	27
FINNAX	30
FINNAX	32
LG/COLORSTAR	18
GRANITZ	28
GRUNDIG	19
HITACHI	10
ITT	10
LUXOR	28
MITSUBISHI	28
MIYAR	02
NEC	29
NOKIA	31
NORDMENDE	26
PANASONIC	11
PHILIPS	02
SABA	26
SALORA	28
SAMSUNG	02, 12, 33, 34, 35
SELECO	28
SHARP	06
SONY	07
TELEAVIA	26
TELEFUNKEN	26
THOMSON	26
TOSHIBA	14

Satellite Tuner Multi-Brand Remote Control

Your remote control can operate the basic functions of your satellite tuner set. In addition to JVC satellite tuners, other manufacturer's satellite tuners can also be controlled.

Before you start . . .

- Turn off the satellite tuner using its remote control.



1 SET SATELLITE TUNER BRAND CODE

Refer to the chart below. Press and hold **CABLE/SAT** on the recorder's remote control for over 2 seconds, enter your satellite tuner's brand code using the **NUMBER** keys, then press **OK**.

Check if the satellite tuner's power goes on as it should. If it does, try other operations (C* step 2).

- Once you have set the remote control to operate the satellite tuner, you don't have to repeat this step until you replace your remote control's batteries.
- Some satellite tuner brands have more than one code. If the satellite tuner does not function with one code, try entering another.

2 OPERATE SATELLITE TUNER

First, press **CABLE/SAT** to set the remote control to satellite tuner mode, then press the corresponding button: **TV PROG**, **+/**, **NUMBER** keys.

- For **VIDEOWAY** or some brands of satellite tuner, you must press **///** after having pressed the **NUMBER** keys.
- The **NUMBER** buttons may not function with some satellite tuners.

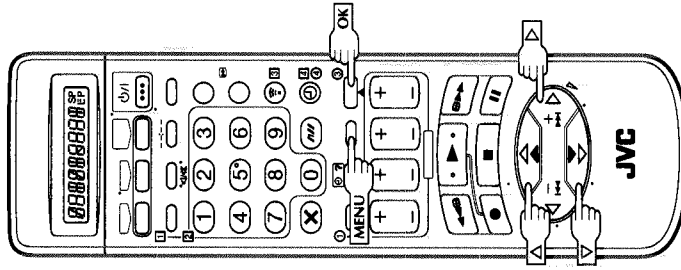
IMPORTANT

Although the provided remote control unit is compatible with JVC satellite tuners, as well as many other models, it may not work with your satellite tuner, or in some instances, may have limited function capability.

SATELLITE TUNER BRAND	CODE
JVC	72, 73
AMSTRAD	60, 61, 62, 63
BT	72
CANAL +	81
FINLUX	68
GRUNDIG	64, 65
HIRSCHMANN	64
ITI	68
JERROLD	75
KATHREIN	70, 71
LUXOR	68
MASPRO	70
NOKIA	68
PACE	65, 67
PANASONIC	74
PHILIPS	66
RIT	69
SALORA	68
SIEMENS	64
SKYMASTER	69
VIDEOWAY	76
WISI	64

Preparation For Editing

Turn on the TV and select the VIDEO channel (or AV mode).



Advantages Of S-VHS Video Recorders

You can edit from VHS to S-VHS, S-VHS to VHS, or, from S-VHS to S-VHS.

- From VHS to S-VHS: Record VHS playback signals in the S-VHS mode. Although the picture quality is inherently limited by that of the original, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to VHS: Because the picture quality of the source material is very high, the edited tape has better picture quality than those made by VHS-to-VHS editing.
- From S-VHS to S-VHS: All signals will be transferred with minimum degradation.

Picture Control

This feature helps you to adjust the playback picture quality according to your preference. *The default setting is "AUTO."

1 ACCESS MAIN MENU SCREEN

Press MENU.

2 ACCESS MODE SET SCREEN

Move the highlighted bar (pointer) to "MODE SET" by pressing Δ ∇ , then press **OK** or $\triangleright$.

3 SELECT PICTURE CONTROL SET MODE

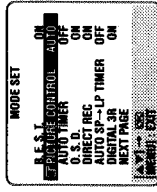
Move the highlighted bar (pointer) to "PICTURE CONTROL" by pressing Δ ∇ , then press **OK** or $\triangleright$ to select the desired mode.

AUTO: Provides optimised picture benefits of B.E.S.T. Picture System. Normally select **AUTO**.

EDIT: Minimizes picture degradation during editing (recording and playback).

SOFT: Reduces image coarseness when viewing overplayed tapes containing a lot of noise.

SHARP: Clearer, sharper-edged picture when viewing images with lots of flat, same-coloured surfaces such as cartoons.



NOTES:

- When you select **EDIT**, **SOFT** or **SHARP**, the selected mode will not change until you select again.
- When you select **EDIT** to dub tapes, be sure to select **AUTO** after you finish dubbing the tapes.

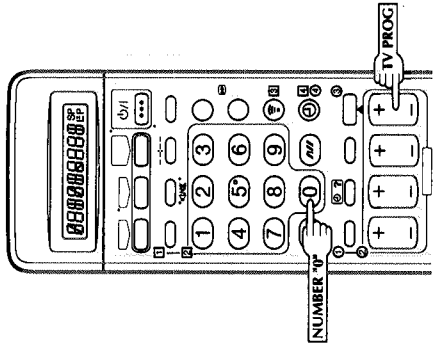
4 RETURN TO NORMAL SCREEN

Press MENU.

NOTES:

- When **B.E.S.T.** is **OFF**, "PICTURE CONTROL" switches automatically from **AUTO** to **NORM**.
- Select **EDIT** when you are dubbing tapes. Refer to page 42.

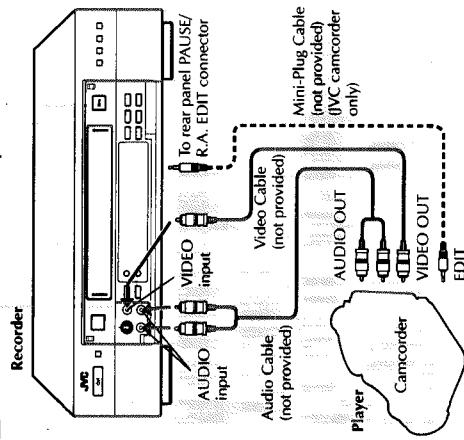
Edit From A Camcorder



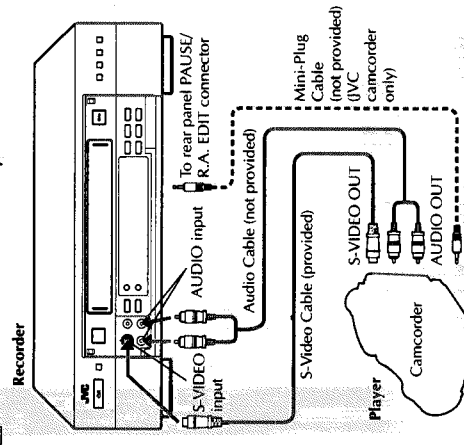
NOTES:

- All necessary cables can be obtained from your dealer.
- You can also use another video recorder as the player instead of a camcorder.
- When you select **EDIT** to dub tapes in step 3, be sure to select **AUTO** (or **NORM** when **B.E.S.T.** is set to **OFF**) after you finish dubbing the tapes.

A If the camcorder has no S-VIDEO output connector...



B If the camcorder has an S-VIDEO output connector...



You can use a camcorder as the source player and your video recorder as the recorder.

1 MAKE CONNECTIONS

A If the camcorder has no S-VIDEO output connector...
...connect the camcorder's AUDIO/VIDEO OUT connectors to the recorder's front panel AUDIO/VIDEO input connectors.

B If the camcorder has an S-VIDEO output connector...
...connect the camcorder's S-VIDEO OUT and AUDIO OUT connectors to the recorder's front panel S-VIDEO and AUDIO input connectors.

• When using a monaural camcorder, connect its AUDIO OUT connector to the AUDIO L input connector on your recorder.

• When a Master Edit Control-equipped JVC camcorder is used, the camcorder is capable of controlling the recorder. Refer to the camcorder's instruction manual for operating procedure.

2 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** to select "F-1" for the AUDIO/VIDEO input connectors, or "S-1" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used.

3 SET EDIT MODE

See "Picture Control" on page 39.

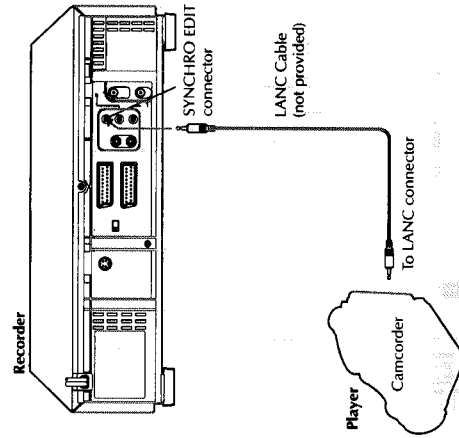
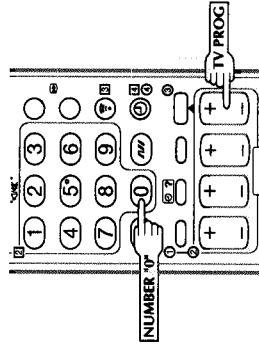
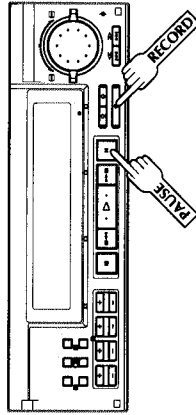
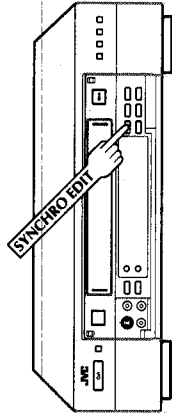
4 START CAMCORDER

Engage its Play mode.

5 START RECORDER

Engage its Record mode.

Synchro Editing



The Synchro Editing function synchronizes the start of the playback and recording operations when starting an edit operation using a camcorder with LANC connector and your video recorder.

1 MAKE CONNECTIONS

Connect your recorder to camcorder (see pg. 40), and connect your recorder's SYNCHRO EDIT connector to the camcorder's LANC connector.

2 SET RECORDER'S INPUT MODE

Press **NUMBER** key "0" and/or **TV PROG** to select "F-1" for the AUDIO/VIDEO input connectors, or "S-1" for the AUDIO/S-VIDEO input connectors, depending on the connectors being used.

3 SET EDIT MODE

See "Picture Control" on page 39.

4 LOCATE START POINT

Start playback of the tape in the camcorder, and pause playback when you find the point where you want to start editing. Press and hold **PAUSE** and press **RECORD** on your recorder so that the recorder enters the Record-Pause Mode.

5 START SYNCHRO EDITING

Press **SYNCHRO EDIT**.

6 PAUSE SYNCHRO EDITING

Press **SYNCHRO EDIT** again.

• Repeat steps 4 - 6 as necessary.

NOTES:

- The Synchro Editing function may not work with the initial part of a camcorder tape.
- The Synchro Editing function cannot be used when using the J-LIP function. (Pressing **SYNCHRO EDIT** cancels the J-LIP function.)
- The Synchro Editing function may not work properly with some type of camcorder.
- When you select **EDIT** to dub tapes in step 3, be sure to select **AUTO** (or **NORM** when **B.E.S.T.** is set to **OFF**) after you finish dubbing the tapes.

Edit To Or From Another Video Recorder

You can use your video recorder as the source player or as the recording deck.

1 MAKE CONNECTIONS

Connect the player's 21-pin SCART connector to the recorder's 21-pin SCART connector as illustrated on page 43.

A When Using Your Video Recorder As The Source Player ...
... connect its AV1 IN/OUT connector to the recording deck.

B When Using Your Video Recorder As The Recording Deck ...
... connect its AV2 IN/DECODER or AV1 IN/OUT connector to the source player.

C If Another Recorder Is Compatible With The Y/C Signal ...
... connect your recorder's AV1 IN/OUT connector to another recorder.

With **C** connection ...

- When using your recorder as the recording deck, set "AV1 SELECT" to "S-VIDEO" and "AV2 SELECT" to "AV2" (cf pg. 44).
- When using your recorder as the source player, set the AV1 OUT switch on the rear panel to Y/C (cf pg. 4).

2 SET RECORDING DECK'S INPUT MODE

Set to AUX. With this video recorder, press **NUMBER** key "4" and/or **TV PROG** to select "L-1" for the AV1 IN/OUT connector, or "L-2" for the AV2 IN/DECODER connector, depending on the connector being used.

- When using the AV2 IN/DECODER connector, make sure "AV2 SELECT" is set to "AV2" (cf pg. 44).

3 SET EDIT MODE

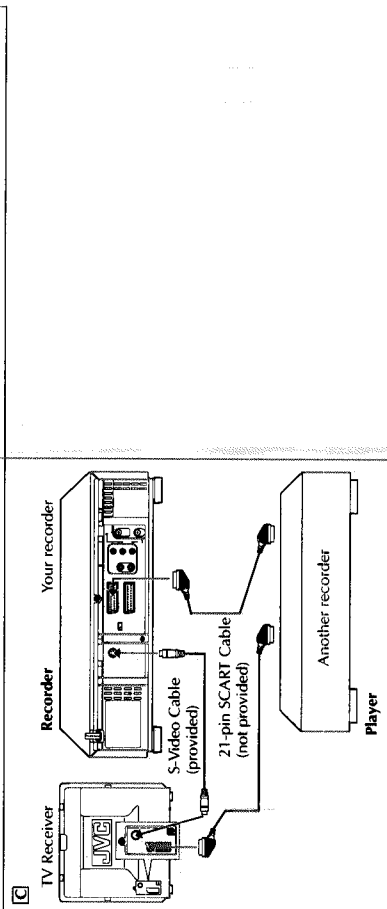
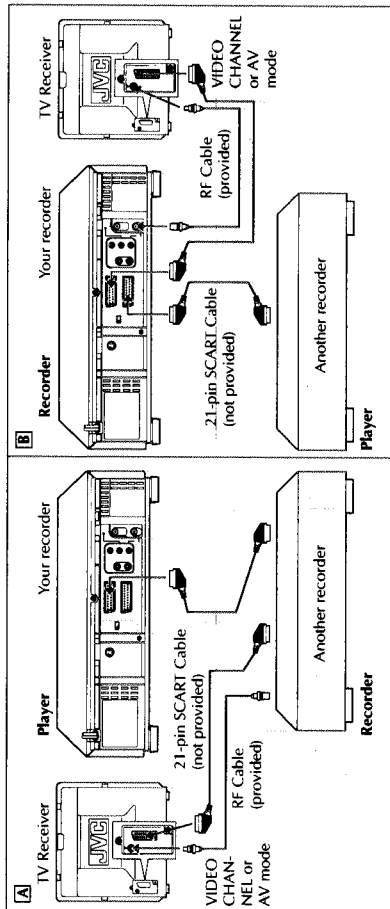
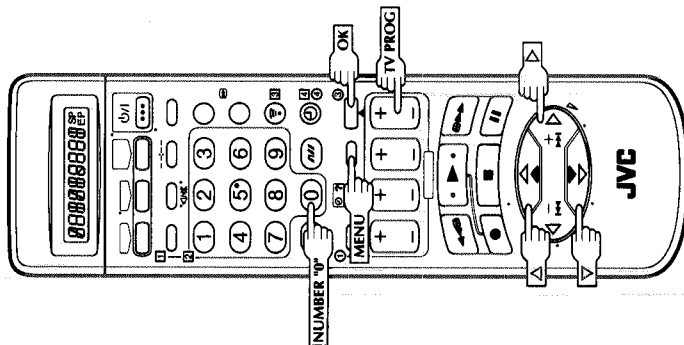
See "Picture Control" on page 39.

4 START SOURCE PLAYER

Engage its Play mode.

5 START RECORDING DECK

Engage its Record mode.



NOTES:

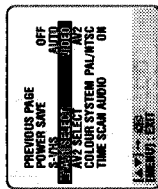
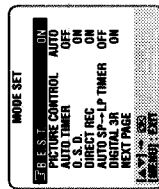
- All necessary cables can be obtained from your dealer.
- For Y/C signal input/output, be sure to use a 21-pin SCART cable that is compatible with the Y/C signal.
- When you select **EDIT** to dub tapes in step 3, be sure to select **AUTO** for **NORM** when **B.E.S.T.** is set to **OFF** after you finish dubbing the tapes.
- When you use this recorder as the player for editing, be sure to set "O.S.D." to "OFF" before starting (cf pg. 11).
- If you are using another recorder with S-Video and Audio input/output connectors, you can connect those connectors to this recorder's S-VIDEO and AUDIO input/output connectors.
- When Using Your Video Recorder As The Source Player ...
... connect its rear panel S-VIDEO and AUDIO output connectors to the recording deck's S-Video and Audio input connectors.
- When Using Your Video Recorder As The Recording Deck ...
... connect its front panel S-VIDEO and AUDIO input connectors to the source player's S-Video and Audio output connectors.
- Then, set the recorder's input mode to "S-1".

AV1 SELECT Setting

Set "AV1 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV1 IN/OUT connector of this recorder.

- 1 Press **MENU** to access the Main Menu screen.
- 2 Press Δ to move the highlight bar (pointer) to "MODE SET", then press **OK** or $\triangleright$.
- 3 Press Δ to move the highlight bar (pointer) to "AV1 SELECT".
- 4 Press **OK** or $\triangleright$ to select "VIDEO" or "S-VIDEO".
 - a-AUDIO : If a connected device's output is compatible only with regular video signals, set "AV1 SELECT" to "VIDEO".
 - b-S-VIDEO : If a connected device's output is compatible with Y/C signals, set "AV1 SELECT" to "S-VIDEO". This setting will let you take advantage of higher-quality S-VHS pictures.
- 5 Press **MENU** to return to normal screen.

- If "AV2 SELECT" is set to "DECODER", it is impossible to set "AV1 SELECT" to "S-VIDEO".

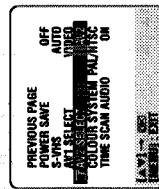
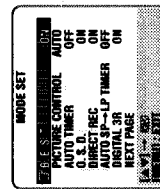


AV2 SELECT Setting

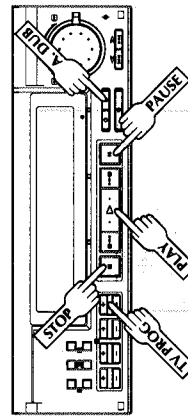
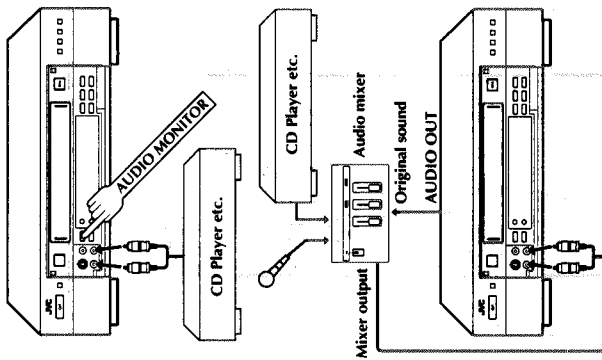
Set "AV2 SELECT" to the appropriate mode depending on the type of unit connected to the rear panel AV2 IN/DECODER connector of this recorder.

- 1 Press **MENU** to access the Main Menu screen.
- 2 Press Δ to move the highlight bar (pointer) to "MODE SET", then press **OK** or $\triangleright$.
- 3 Press Δ to move the highlight bar (pointer) to "AV2 SELECT".
- 4 Press **OK** or $\triangleright$ to select "AV2", "DECODER" or "SAT".
 - a-AV2 : To use this recorder as the recording deck with the player connected to the AV2 IN/DECODER connector, or to use the satellite tuner connected to the AV2 IN/DECODER connector.
 - b-DECODER : To use a decoder connected to the AV2 IN/DECODER connector.
 - c-SAT : To view a satellite programme with the TV set while the recorder is in Timer mode, in Stop mode, recording or turned off. (27 pg. 51)
- 5 Press **MENU** to return to normal screen.

- If you have a decoder connected to the AV2 IN/DECODER connector, be sure to set "AV2 SELECT" back to "DECODER" after editing.
- If you're not connecting a decoder to the AV2 IN/DECODER connector, leave "AV2 SELECT" set to "AV2".
- The default setting is "AV2"; if the recorder's memory backup has expired due to a power cut or because the AC was removed from the recorder, "AV2" will be automatically selected when the power is restored to the recorder. If you are using a decoder, be sure to set "AV2 SELECT" back to "DECODER".
- If the AV1 OUT switch on the rear panel is set to Y/C, it is impossible to set "AV2 SELECT" to "DECODER".



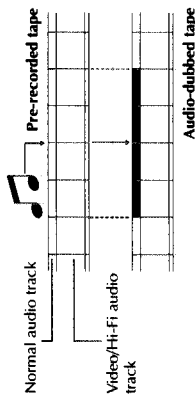
Audio Dubbing



NOTES:

- When monitoring the sound during Audio Dubbing, the normal soundtrack is automatically selected. If you wish to hear the mixed sound (Hi-Fi + Normal soundtracks), press **AUDIO MONITOR** (or **AUDIO** on the remote control) to select "M" + $\boxtimes$ (L+R)+NORM" (27 pg. 19).
- Audio dubbing stops automatically when the counter reaches "0:00:00", and the recorder enters the Play mode. Check the counter reading before dubbing.
- Audio dubbing is also possible using the rear panel AV1 IN/OUT or AV2 IN/DECODER connector. When using these connectors, make sure to select the correct input mode in step 2.
- Audio dubbing cannot be performed on a cassette that has had its record safety tab removed.
- When playing back an audio-dubbed tape, press **AUDIO MONITOR** (or **AUDIO** on the remote control) to select the soundtrack you wish to hear (27 pg. 19).

Audio dubbing replaces the normal audio sound of a previously recorded tape with a new soundtrack.



1 MAKE CONNECTIONS

Connect an audio component to the AUDIO L + R connectors on the recorder's front panel.

- When connecting monaural equipment, use only the recorder's AUDIO L connector.

2 SET INPUT MODE

Press **NUMBER** key "0" and/or **TV PROC** so that "L-1" or "S-1" appears in place of a channel number.

3 LOCATE START POINT

Press **PLAY** to start playback of the tape in your recorder, and press **PAUSE** when you find the point where you want to start dubbing.

4 ENGAGE AUDIO DUBBING

Press **A. DUB**.

- Your recorder enters the Audio Dubbing Pause mode. "0" blinks, "L-1" and "S-1" light up on the front display panel.)
- To perform audio dubbing with audio mixing, press **AUDIO MONITOR** (or **AUDIO** on the remote control) to select "M" + $\boxtimes$ (L+R) at this point.
- Audio dubbing with audio mixing is not possible if you're using a monaural audio component, or if you don't have an audio mixer.

5 START DUBBING

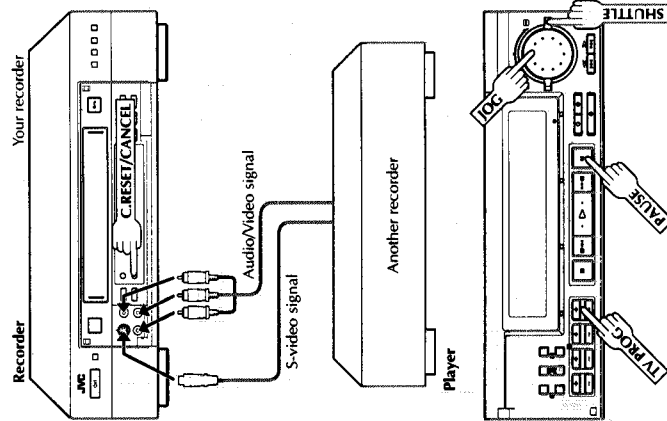
Engage the audio component's Play mode, then press **PLAY** to start the tape in your recorder. Audio dubbing begins at this point.

- "0" blinks and "L-1" is displayed on the front display panel.
- To stop dubbing temporarily, press **PAUSE**. Press **PLAY** to resume dubbing.

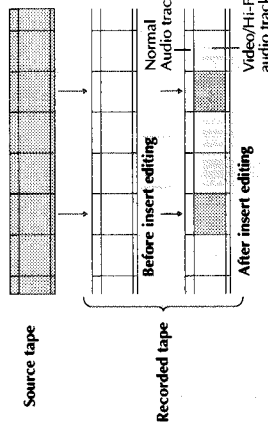
6 END AUDIO DUBBING

Press **STOP** to stop the tape in your recorder, and engage the audio component's Stop mode.

Insert Editing



Insert editing replaces part of the recorded scene with new material. Both the picture and Hi-Fi audio soundtrack are replaced with new ones, while the normal audio soundtrack remains unchanged. If you wish to change the normal audio track as well, use the audio dubbing function simultaneously. Use your video recorder as the recorder.



1 MAKE CONNECTIONS

Connect the player's VIDEO OUT or S-VIDEO OUT and AUDIO OUT connectors to your recorder's VIDEO or S-VIDEO and AUDIO input connectors on the front panel.

2 SET INPUT MODE

Press NUMBER key "0" and/or TV PROG so that "I-1" for the VIDEO/AUDIO input connectors or "S-1" for S-VIDEO/AUDIO input connectors appears in place of a channel number.

3 LOCATE END POINT

Load the recording cassette into your recorder, and play it back to determine the edit-out point (the end of the segment to be replaced) using the SHUTTLE ring or the JOG dial or pressing <D> and PAUSE.

4 RESET THE COUNTER

Press 0000 (or C-RESET/CANCEL) to change the counter display to "0:00:00".

5 LOCATE START POINT

Determine the edit-in point (the beginning of the segment to be replaced) using the SHUTTLE ring or the JOG dial or pressing <D> and PAUSE.

• Be sure to engage the Still mode at the edit-in point.

6 ENGAGE INSERT EDITING

Press INSERT.

- Your recorder enters the Insert-Pause mode ("I-1" and "I-1" light up on the front display panel.)
- The TV screen changes from the still picture to the input source you are going to record.

7 START EDITING

Load the source cassette and play back the segment that is to be inserted. When you reach the start of the section of the source tape that you wish to insert, press PLAY to start the tape in your recorder; Insert Editing begins at this point.

- "I-1" and "I-1" are displayed on the front display panel.

8 END INSERT EDITING

At counter "0:00:00", Insert Editing will stop automatically while the tape continues running in the Play mode. If you wish to stop Insert Editing before the specified edit-out point, press 0000 (or C-RESET/CANCEL).

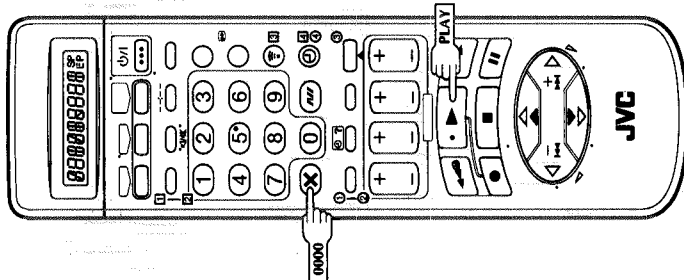
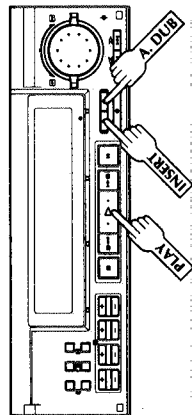
FOR AV INSERT EDITING

If you want to replace the picture, Hi-Fi audio soundtrack and normal audio soundtrack all at the same time...

...In step 6 above, after you press INSERT, press A-DUB also. ("I-1" and "I-1" blink and "I-1" lights up on the front display panel.)

NOTES:

- Suitable leads can be obtained from your dealer.
- Insert editing is not possible with cassettes whose safety tab has been removed.
- When insert editing is performed on a tape that has been recorded on another video recorder, the inserted portion may appear distorted.
- In insert editing, the recording speed (SPLP) is determined by the previous recording to be replaced. If the previous recording's speed changes within a single edit, the inserted picture will be distorted at the switching point.
- A small portion of the recording which precedes an insert edit may become erased.
- Insert Editing is also possible using the rear panel AV1 IN/OUT or AV2 IN/DECODE connector. When using these connectors, make sure to select the correct input mode in step 2.



EN 49

NOTES:

- You can also monitor the sound when searching for scenes you want to edit in steps 7–8. Since you can hear the soundtrack during selection, you can avoid abrupt or unnatural sounding scene-to-scene transitions. The sound that is heard, however, is not TimeScene Audio.

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- For any scene, the edit-out point must have a counter reading that is at least 1 second after the corresponding edit-in point. Any less than 1 second and the edit-out point will not be registered.
- Since the source recorder prerolls during Random Assembly Editing, there must be at least 15 seconds worth of recorded

- If the search time for an edit-in point exceeds 5 minutes, the recording deck enters its Stop mode and editing will not take place.
- During steps 7 and 8 — if you engage the Pause mode while registering edit-in and -out points in the R.A. Edit screen, the

Insert the cassette to be recorded on into the recorder and set the recorder's input mode.

To Make Corrections . . .

See "Picture Control" on page 39.

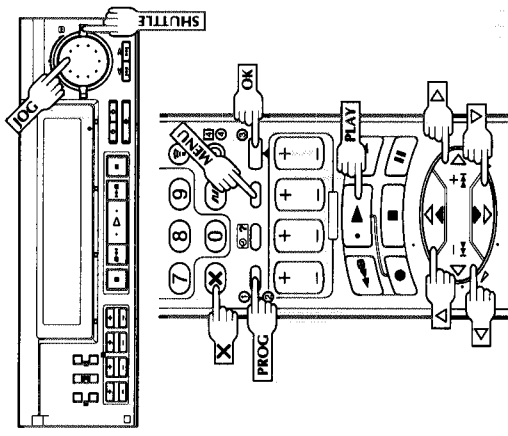
See "Picture Control" on page 39.

Press **PLAY**.

Press R.A. EDIT.

**RM-V704U Multi-Brand R.A. Edit Controller
(Not provided)**

combination with a second non-JVC video recorder. The controller is compatible with various major recorder brands. For compatible



Find the point on the source tape from where you want the edited scene to begin by pressing **◀▶** or using the **SHUTTLE** ring or the **JOG** dial, then press **IN/OUT** (or **PROG**).

- The edit-in point is registered in memory and appears on the screen.

Find the point where you want the edited scene to end by pressing **4** or using the **SHUTTLE** ring or the **JOG** dial, then press **IN/OUT** (or **PROG**).

- The edit-out point is registered in memory and appears on the screen.
- The total time of the edited scenes is displayed to the right of "a(+)"
- Repeat steps 7 and 8 for each additional scene.

Engage its Record-Standby mode.

Press **START** (or **OK**).

- *PROGRAM FULL[®] appears on the R.A. EDIT screen.
- To cancel a program, see page 32.
- RAM-V704U Multi-Brand R.A. Edit Controller**
(Not provided)
- By connecting this controller to your recorder's R.A. EDIT connector, you can perform Random Assemble Editing in combination with a second non-JVC video recorder. The controller is compatible with various major recorder brands. For compatible systems and availability, please consult your JVC dealer.
- NOTE:**

Press **MENU** to return to the normal screen, and engage the Stop mode for your recorder and for the recording deck.

- You can also monitor the sound when searching for scenes you want to edit in steps 7 – 8. Since you can hear the soundtrack during selection, you can avoid abrupt or unnatural sounding scene-to-scene transitions. The sound that is heard, however, is not TimeScan Audio.
- When editing, there may be a discrepancy of about 2 seconds on the source tape between the locations you chose as edit-in/out points and the locations your recorder recognizes as those points.
- For any scene, the edit-out point must have a counter reading that is at least 1 second after the corresponding edit-in point. Any less than 1 second and the edit-out point will not be registered.
- Since the source recorder prerolls during Random Assemble Editing, there must be at least 15 seconds worth of recorded material prior to any edit-in point on the source tape.
- If the search time to any edit-in point exceeds 5 minutes, the recording deck enters its Stop mode and editing will not take place.
- During steps 7 and 8 – if you engage the Pause mode while registering edit-in and –out points in the R.A. Edit screen, the characters in the on-screen display may become distorted. This is normal.

... during step 7 or 8, you can cancel registered in and out points by pressing **X** (or **C.RESET/CANCEL**). Each time you press, the preceding point is erased.

➤ If, for example, you have registered 5 sets of in and out points and want to reset the first set, you have to press **X** (or **C.RESET/CANCEL**) until all points after the first set have been erased. Reenter them after you've repaired the first set of points.

When all 8 programs are full, "PROGRAM FULL" appears on the R.A. EDIT screen.

By connecting this controller to your recorder's R.A. EDIT connector, you can perform Random Assemble Editing in combination with a second non-IVC video recorder. The controller is compatible with various major recorder brands. For compatible systems and availability, please consult your IVC dealer.

Although the RM-V704U is designed to operate the recording deck, it may not work with some recorders, or may have limited function capability.

J Terminal (JLIP(Joint Level Interface Protocol) Connector)

The J Terminal is used to connect the recorder to a personal computer or similar device to allow computerized control of the recorder during editing and certain other operations.

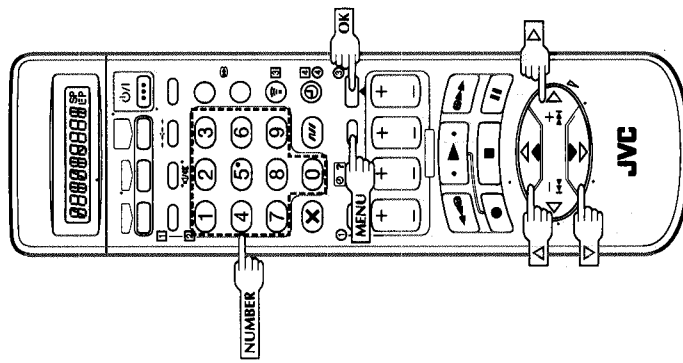
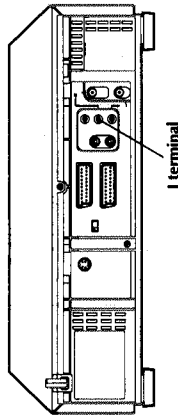
Examples:

- With the optional JLIP VIDEO CAPTURE BOX GV-CB3E, enables Random Assembly Editing of up to 99 segments, using this recorder as the playback unit.
- Allows you to capture still images from the recorder into a personal computer.

For further details consult your nearest JVC dealer.

JLIP ID Number

Your recorder has its own JLIP ID number. This ID number must be unique when your recorder is connected to another device via its J terminal. The ID Number is preset to "1" at the factory. You can change this number to any number between "1" and "99". If it is necessary to change the JLIP ID number perform the following steps.



1 ACCESS MAIN MENU SCREEN

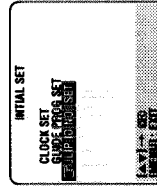
Press MENU.

2 ACCESS INITIAL SET SCREEN

Press $\Delta \nabla$ to move the highlight bar (pointer) to "INITIAL SET", then press OK or P.

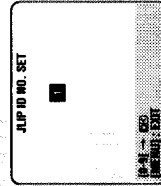
3 ACCESS JLIP ID NO. SET SCREEN

Press $\Delta \nabla$ and move the highlight bar (pointer) to "JLIP ID NO. SET", then press OK or P.



4 SET JLIP ID NUMBER

Press NUMBER keys to enter the desired ID number.



5 RETURN TO NORMAL SCREEN

Press OK.

Connection To A Satellite Tuner

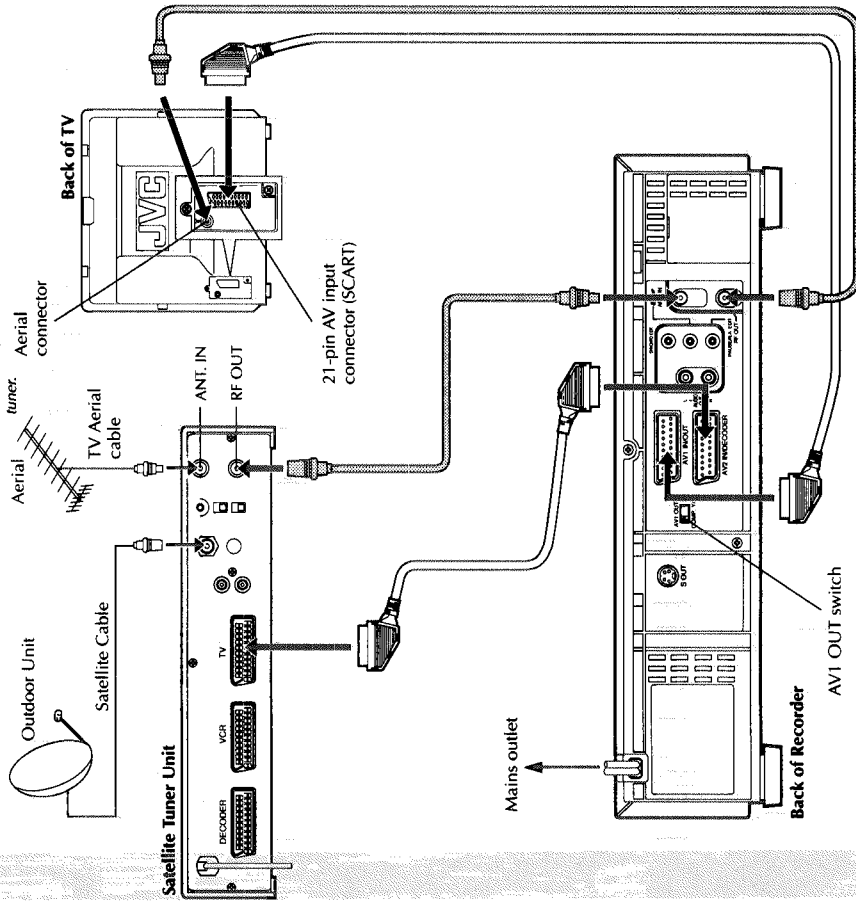
Simple Connections

This is an example of simple connection if you don't have a decoder.

Connect the satellite tuner to the video recorder's AV2 IN/ DECODER connector, then connect the recorder's AV1 IN/OUT connector to the TV's 21-pin SCART connector.

NOTES:

- Set "AV2 SELECT" to "AV2*" (E7 pg. 44)
- You can use Automatic Satellite Program Recording function (E7 pg. 35) with this connection.
- To view a programme via the satellite tuner, select L-2 mode by pressing NUMBER keys and/or TV PROG so that "L-2" appears on the display panel.
- For details, refer to the instruction manual for the satellite tuner.



IMPORTANT

When you set "AV2 SELECT" to "SAT*" (E7 pg. 44), it is possible to view a satellite broadcast with the TV set to its AV mode even if the recorder is in Timer mode, recording or turned off. When the recorder is in Stop mode or recording, press TV/VCR on the remote control to turn off the VCR indicator on the display panel.

- In this case, be sure to set the AV1 OUT switch on the rear panel to COMP.

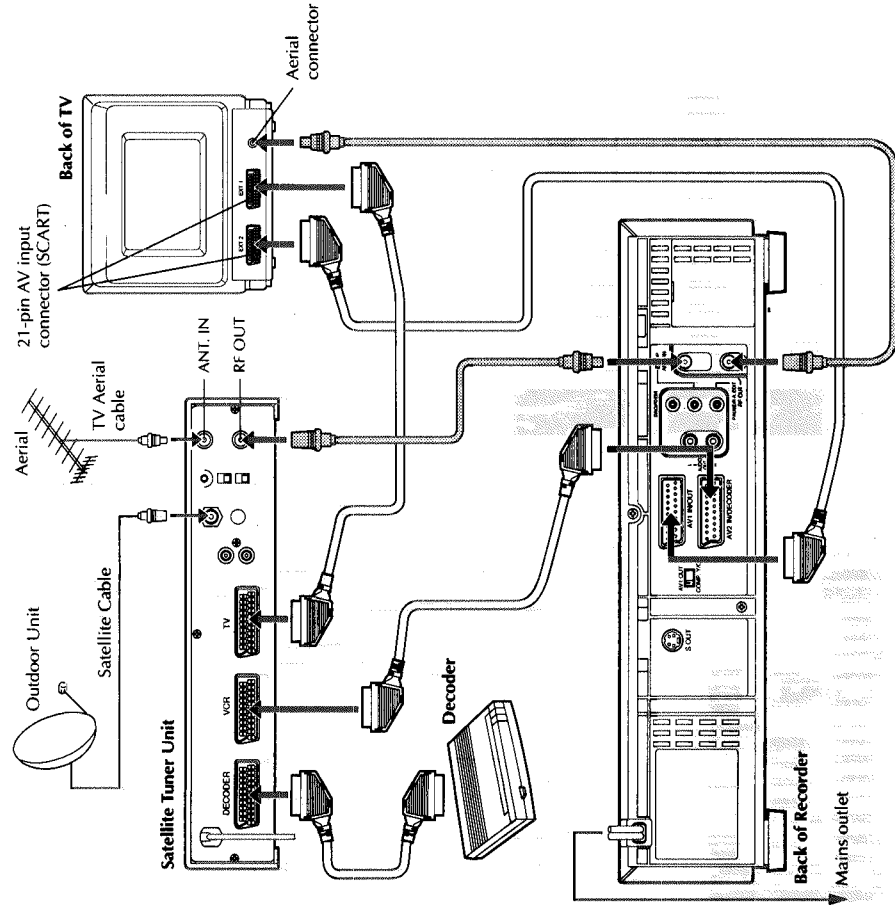
Perfect Connections

This is an example of recommended connection if you have both satellite tuner and decoder.

Connect the decoder to the satellite tuner's connector, AV1 IN/OUT connector to TV's connector, and AV2 IN/DECODER connector to the satellite tuner's connector. Then connect the satellite tuner and TV.

NOTES:

- Set "AV2 SELECT" to "AV2". (E7 pg. 44)
- You can use Automatic Satellite Program Recording function (E7 pg. 35) with this connection.
- To view a programme via the satellite tuner, select L-2 mode by pressing **NUMBER** keys and/or **TV PROG** so that "L-2" appears on the display panel.
- To receive a scrambled broadcast, descramble the signal with the satellite tuner.
- For details, refer to the instruction manual for the satellite tuner and decoder.



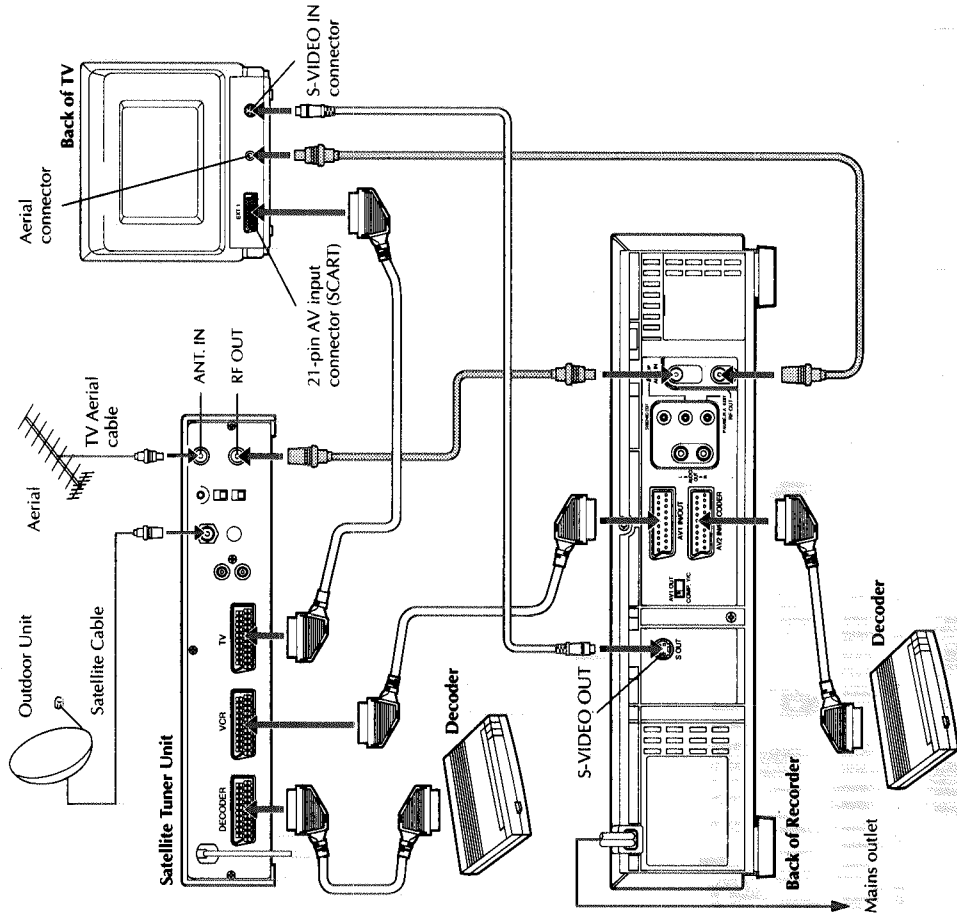
Basic Connections

This is an example of basic connection if you have both satellite tuner and decoder.

Connect the decoder to your recorder's AV2 IN/DECODER connector and AV1 IN/OUT connector to the satellite tuner's connector. Then connect the satellite tuner and TV. If you have a decoder for satellite broadcast, connect it to the satellite tuner's connector.

NOTES:

- To record a satellite programme which delivers the Y/C signal, set "AV2 SELECT" to "AV2" and "AV1 SELECT" to "S-VIDEO". You can obtain high-quality S-VHS picture.
- If you connect your recorder and TV via S-Video cable VC-S211 (not provided), you can enjoy high-quality S-VHS pictures.
- Set "AV2 SELECT" to "DECODER" to view a scrambled broadcast. (E7 pg. 44)
- Automatic Satellite Program Recording function is not possible with this connection.
- To view a programme via the satellite tuner, select L-1 mode by pressing **NUMBER** keys and/or **TV PROG** so that "L-1" appears on the display panel.
- For details, refer to the instruction manual for the satellite tuner and decoder.



Connecting/ Using A Decoder

The AV2 IN/DECODER connector can be used as an input terminal for an external decoder (descrambler). Simply connect a decoder and you can enjoy the variety of programming that is available through scrambled channels.

1 SELECT INPUT MODE

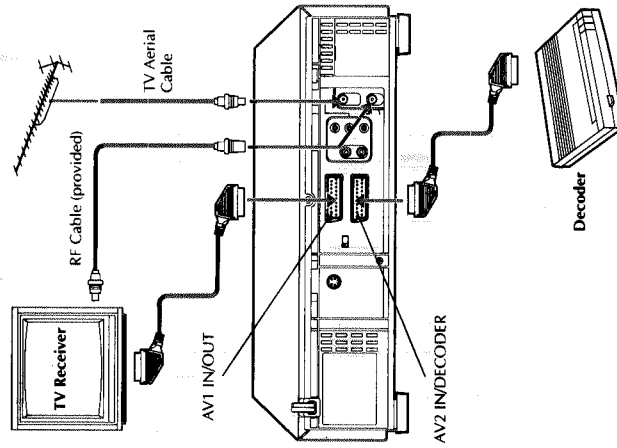
Set "AV2 SELECT" to "DECODER". (E27 pg. 44)

2 CONNECT DECODER

Connect your recorder's AV2 IN/DECODER connector to the decoder's Euroconnector using a 21-pin SCART cable.

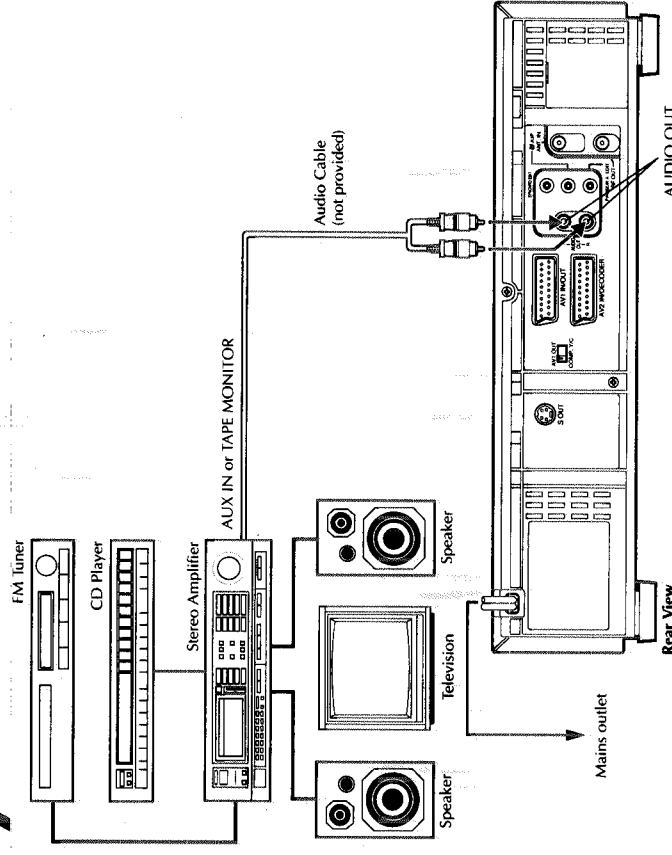
3 SET TUNER

Perform the procedure as described in "When Receiving A Scrambled Broadcast" on page 59.



Connecting/ Using A Stereo System

These instructions enable you to connect your video recorder to your Hi-Fi stereo system (if you have one) and listen to the soundtrack through the stereo.



1 MAKE CONNECTIONS

Connect the AUDIO OUT L and R connectors on your video recorder to the AUX IN or TAPE MONITOR terminals on your stereo system's receiver or amplifier.

NOTES:

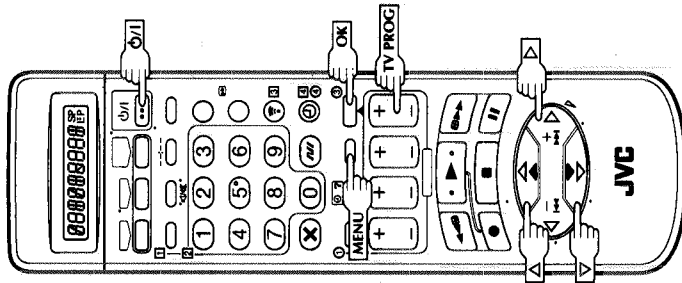
- When connecting your recorder's audio output connectors to a stereo amplifier, make sure you connect L and R correctly.
- If stereo or bilingual TV broadcasts are receivable in your area, this recorder can record them independently of the TV set and play them back through the connected stereo system.
- When listening to sound through the connected stereo system, turn the TV's volume down completely.

CAUTIONS:

- This recorder has a dynamic range of more than 80 dB with regards to its Hi-Fi audio capability. It is recommended that you check the maximum level if you are going to listen to the Hi-Fi audio signals through a stereo amplifier. A sudden surge in the input level to the speakers may damage them.
- Some speakers and televisions are specially shielded to prevent television interference. If both are of the non-shielded type, do not place the speakers adjacent to the TV set as this can adversely affect the video playback picture.

Tuner Set

Turn on the TV and select the VIDEO channel (or AV mode).



IMPORTANT

Perform the following steps only if —
— Auto Channel Set has not been set correctly by Auto Set Up function or by Preset Download (p. 6, 8).
— you have moved to a different area or if a new station starts broadcasting in your area.

Your recorder needs to memorize all necessary stations in channel positions in order to record TV programmes. Auto Channel Set automatically assigns all receivable stations in your area to call them up by using the TV PROG buttons without going through any vacant channel.

Auto Channel Set

1 TURN ON THE RECORDER

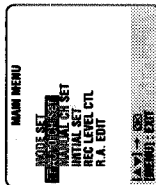
Press ϕ /I.

2 ACCESS MAIN MENU SCREEN

Press MENU.

3 ACCESS AUTO CH SET SCREEN

Press Δ / ∇ to move the highlight bar (pointer) to "AUTO CH SET", then press OK or P.



4 SELECT COUNTRY

Press Δ / ∇ to move the highlight bar (pointer) to your country's name, then press OK or P.

5 SELECT LANGUAGE

Press Δ / ∇ to move the highlight bar (pointer) to the language of your choice.

PERFORM AUTO CHANNEL SET

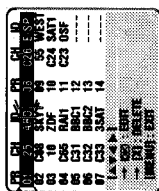
Press OK twice.

- You can set up the recorder's tuner also by Preset Download (p. 7 pg. 8).
 - The Auto Set screen appears, and remains on screen while the recorder searches for receivable stations.
- Beginning
- End
- As Auto Channel Set progresses, the "■" mark on the screen moves from left to right. Wait until the screen as shown in step 7 appears.

6

VIEW CONFIRMATION SCREEN

After "SCAN COMPLETED" is displayed on the screen for about 5 seconds, the Confirmation screen (looking like the one to the right) appears. The stations your recorder located appear on a Confirmation screen — channel positions (PR), channels (CH) and station names (ID — p. 61). The blueback screen and the programme currently being broadcast by the blinking station appear alternately for 8 seconds each. To view the next page, use the Δ / ∇ button on the remote control.



C: Cable

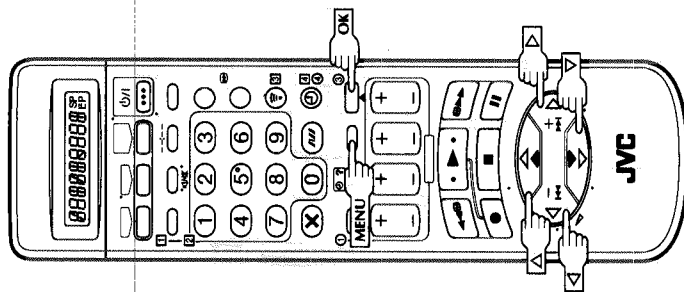
- The stations located in the selected country appear at the top of the list.
- The Guide Program numbers will also be set automatically during Auto Channel Set.

RETURN TO NORMAL SCREEN

Press MENU.

- Using the Confirmation screen, you can skip or add channel positions, enter station names and perform other operations. Refer to pages 58 – 62 for the procedures.
- Depending on reception conditions, the stations may not be stored in order, and the station names may not be stored correctly.
- For information on scrambled broadcasts, refer to page 59.

8



IMPORTANT

- In certain reception conditions, station names may not be stored correctly, and auto Guide Program Number Set may not work properly. If the Guide Program numbers are not set properly, when you timer-record a TV programme using ShowView, the recorder will record a TV programme of a different station. When programming the timer using ShowView, be sure to check whether the channel position on which your recorder receives the broadcasting station you wish to record is selected (p. 28, "ShowView Timer Programming").
- Your video recorder memorizes all detected stations even if reception of some of them is poor. In these cases picture quality may be poor. To delete those stations with an unacceptable picture ⏏ "Delete A Channel" on page 59.

NOTES:

- Fine tuning is performed automatically during Auto Channel Set. If you want to perform it manually, refer to page 62.
- If you perform Auto Channel Set when the aerial cable is not connected properly, "SCAN COMPLETED - NO SIGNAL" appears on the screen in step 7. When this happens, make sure of the aerial connection and press OK. Auto Channel Set will take place again.



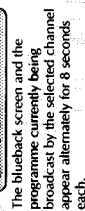
Store channels that were not stored during Auto Set Up (47 pg. 56), Preset Download (47 pg. 8) or Auto Channel Set (47 pg. 56)

Press **MENU**.

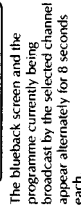
Press $\Delta \nabla$ to move the highlight bar (pointer) to "MANUAL CH SET", then press **OK** or $\triangleright$. The Configuration screen appears.

Press $\Delta \nabla \blacktriangleleft$ until an
(Ex.) To store in position 12

Press $\Delta V \Delta D$ until an open position in which you want to store a channel begins blinking, then press **OK**. The Manual Channel Set screen appears.



Press $\Delta \nabla$ to change the band between CH (regular) and CC (cable), then press Δ .



Press the **NUMBER** keys to input the channel number you want to store.

- Input "0" before any single number entries.
- To input the registered station (ID = ΔT pg. 61), press Δ "ID" "xxxx" (ID setting) begins blinking, then press Δ .
- For fine tuning adjustment, press Δ until " Δf " begins blinking, then press Δ . While tuning, " Δf " or " Δn " appears.
- When storing a channel that sends scrambled broadcasts, press Δ until "OFF" (Decoder setting) blinks, then press Δ to set "DECODE" to "ON" ("OFF" is the default setting).
- When "AV2 SELECT" is set to "AV2", the "DECODE" setting cannot be changed (cf. pg. 44).

Press **OK** and the Confirmation screen appears.

- Repeat steps 3 through 6 as necessary.

Press MENU.

- To change positions, see "Change Station Channel Position" (¶ pg. 59).
- If you wish to set station names other than the ones registered in your recorder, ¶ "Set Stations (B)" on page 60.

Guide Program numbers are not set when channels are stored manually. If an attempt is made at timer programming with SnowView in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen. ⚠ "ATTENTION – Regarding Guide Program Number Set" on pg. 29.

Perform steps 1 and 2 of "Storing Channels Manually" on page 58 to access the Confirmation screen before continuing.

Press $\Delta \nabla \blacktriangleleft \blacktriangleright$ until the item you want to delete begins blinking.

Press X.

- The item directly beneath the cancelled one moves up one line.
- Repeat steps **1** and **2** as necessary.

Press MENU.

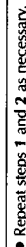
Change Station Channel Position

Perform steps 1 and 2 of "Storing Channels Manually" on page 58 to access the Confirmation screen before continuing:

Press $\Delta \nabla \blacktriangleleft$ until the item you want to move begins blinking. Then press **OK** and the station name (ID) and its channel (CH) number begin blinking.

2-Press $\Delta \nabla \triangleleft \triangleright$ to move the station to the new channel position, then press **OK**.

Example: if you moved the station in position 4 to position 2, the stations originally in positions 2 and 3 each move down one space.



Press MENU.

When Receiving A Scrambled Broadcast

Set "AV2 SELECT" to "DECODER" (pg. 44).

Perform steps 1 and 2 of "Storing Channel Manually" on page 58.

Press $\Delta \nabla \blacktriangleleft$ to select the channel position broadcasting scrambled programmes, then press **OK** twice.

Press $\blacktriangleright$ until "OFF" (decoder setting) begins blinking, and set it to "ON" by pressing $\Delta \nabla$.

Press OK.

- Repeat steps 3 through 5 as necessary.

Press MENU.

ATTENTION

If channel positions are changed or deleted, the Guide Program numbers that have been set are reset.

- Example 1: If a channel is deleted, all the Guide Program numbers are reset.
 - Example 2: If a channel is changed from position 4 to position 2, the Guide Program numbers above position 4 are reset.
 - Example 3: If a channel is changed from position 4 to position 6, the Guide Program numbers above position 6 are reset.
 - In Examples 2 and 3, if the channel is moved to position 10 before **OK** is pressed, the Guide Program numbers above position 10 are reset.
- If an attempt is made at timer programming with ShowView in this state, the "GUIDE PROG SET" screen appears; set the Guide Program numbers on this screen, then press **ATTENTION** – Regarding Guide Program Number Set" on pg. 29.
- Or perform "Guide Program Number Set" (pg. 66).

NOTE:

The characters available for the station name (ID) are A-Z, 0-9, *, +, - (space) (maximum of 4).

Set Stations (A)

Set station names that are registered in your recorder.

Perform steps 1 and 2 of "Storing Channels Manually" on page 58 to access the Confirmation screen before continuing.

1 SELECT ITEM

Press $\Delta \nabla$ $\leftarrow \rightarrow$ until the item you want begins blinking.

2 ACCESS MANUAL CHANNEL SET SCREEN

Press **OK** twice.

3 SELECT NEW STATION

Press $\triangleright$ until the station name (ID) begins blinking, then press $\Delta \nabla$ until the new station's name (ID) you want to store begins blinking.

Registered station names (E27 pg. 61) appear as you press $\Delta \nabla$.

4 SWITCH STATIONS

Press **OK**.

- The Confirmation screen appears.
- Repeat steps 1 through 4 as necessary.

5 CLOSE CONFIRMATION SCREEN

Press **MENU**.

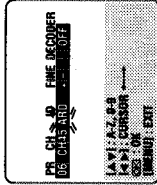
Set Stations (B)

Set station names other than the ones registered in your recorder.

Perform steps 1 and 2 of "Storing Channels Manually" on page 58 to access the Confirmation screen and then perform step 1 and 2 of "Set Stations (A)" on the left before continuing.

1 SELECT STATION NAME CHARACTER

Press $\triangleright$ until the first letter of the station name begins blinking.



2 ENTER NEW CHARACTER

Press $\Delta \nabla$ to cycle through the characters (A-Z, 0-9, *, +, -, (space)) and stop when the desired character is indicated, then press $\triangleright$ to enter. Enter the remaining characters the same way (maximum of 4). After entering all characters, press **OK**.

- The Confirmation screen appears.
- If you make a mistake, press $\leftarrow$ until the incorrect character begins blinking. Then enter the correct character by pressing $\Delta \nabla$.

3 CLOSE CONFIRMATION SCREEN

Press **MENU**.

TV Station And ID List

ID*	STATION NAME
1000	TV1000
3SAT	3SAT
ADULT	ADULT
ANT3	ANTENNA3
ARD	ARD
ARTE	ARTE
BBC	BBC GROUP
BBC1	BBC1
BBC2	BBC2
BR3	BAYERN3
C+	CANAL PLUS
CI	PORTUGUESES
CAN5	CANAL5
CANV	KETNET CANVAS
CH4	CHANNEL4
CH5	CHANNEL5
CHLD	CHILD
CINE	CINEMA
CLUB	TELECLUB
CMT	CMT
CNN	CNN
CSUR	ANDALUCIA
DISC	DISCOVERY
DR	DR TV
DRS	DRS
DSF	DSF
ETB1	ETB1
ETB2	ETB2
EURO	EURONEWS
EUSP	EUROSPORTS
FEMM	FEMMAN
FILM	FILM
FNET	FILMNET
FR2	France2
FR3	France3
GALA	GALAVISION
HR3	HESEN3
INFO	INFO-KANAL
ITAL	ITALIA1
ITV7	ITALIA7
ITV	ITV
ISTV	ISTV
KA2	KABEL1
KAB1	KABEL1
KAN2	KANAL2
LOCA	LOCAL
M6	M6
MBC	MBR
MCM	MCM
MDR	MDR
MOVE	MOVIE
MTV	MTV
MTV3	MTV3
N3	NORD3
N-TV	N-TV
NBC	NBC SUPER
NDR3	NDR3
NED1	NED1
NED2	NED2
NED3	NED3
NEWS	NICKELDEON
NICK	NICK
NRK	NRK
NRK2	NRK2
ODE	ODE
ORF1	ORF1

ID*	STATION NAME
ORF2	ORF2
ORF3	ORF3
OWL3	OWL3
PREM	PREMIERE
PRO7	PRO7
RAI1	RAI1
RAI2	RAI2
RAI3	RAI3
RET4	RET4
TELE21	TELE21
RTB1 or 2	RTB1 or 2
RTL	RTL
RTL2	RTL2
RTL4	RTL4
RTL5	RTL5
RTP	RTP
S4	S4
SATI	SATI
SBS	SBS
SHOW	SHOW
SIC	SOCIEDADE
SKY	SKY CHANNEL
SKYN	SKY NEWS
SPORT	SPORT
SRTL	SRTL
STAR	STAR-TV
SVT1	SVT1
SVT2	SVT2
SUEDWEST3	SUEDWEST3
TCC	TCC
TELE	TELE
TELE5	TELE5
TF1	TF1
TM3	TM3
TMC	TMC
TNT	TNT
TNT INT	TNT INT
TRT INT	TRT INT
TS1	TS1
TSR	TSR
TV1	BRTN TV1
TV2	TV2
TV3	TV3
TV4	TV4
TV5	TV5
TV6	TV6
TVE1	TVE1
TVE2	TVE2
TV GALICIA	TV GALICIA
TV INDEPENDENT	TV INDEPENDENT
TV NORGE	TV NORGE
VIDEO	VIDEO
VERONICA	VERONICA
VH-1	VH-1
VIVA	VIVA
VIVA2	VIVA2
VIDEO MUSIC	VIDEO MUSIC
VOX	VOX
VT4	VT4
VIM	VIM
WDR1	WDR1
WDR3	WDR3
YLE1	YLE1
YLE2	YLE2
ZDF	ZDF
ZTV	ZTV

* The "ID" abbreviation is what is shown on-screen in lieu of the station name. The "ID" abbreviation is listed in the Confirmation screen and is displayed on the TV screen when the recorder is tuned to a different station.

Video Channel Set

Video Channel (RF Output Channel) is the channel on which your TV receives picture and sound signals from the video recorder through the RF cable.

IMPORTANT

your area.

If you have connected the video recorder to your TV via both the provided RF cable and a 21-pin SCART cable (AV connection), or via the provided RF cable, the provided S-Video cable and an audio cable (S-VIDEO connection), since you do not need the video channel you have to set the video channel to off.

If you have connected the video recorder to your TV via the RF cable only (RF connection), you have to set the correct video channel!

Then set your TV to UHF channel 50.

- If the two vertical white bars appear clearly on the screen as shown to the right, go to step 4.

- If the two versions do not appear the same, the video recording is not correct.

vacant channel and try again.



Then set your TV to UHF channel 50.

- If the two vertical white bars appear clearly on the screen as shown to the right, go to step 4.
- If the two vertical white bars do not appear clearly, re-set the video recorder to another vacant channel and try again.

NOTES:

- If you set the video recorder to a channel which is occupied by a local station or has neighbouring channels that are occupied by local stations, the picture reception quality will be affected and some interference noise will appear on the TV screen. Be sure to select a vacant channel which has no broadcast on neighbouring channels.
- If you cannot obtain the two vertical white bars clearly with any channel between 22 and 69, consult your JVC dealer.

EXIT VIDEO CHANNEL SET MODE

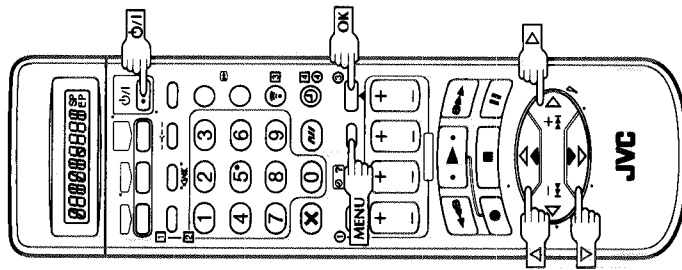
Press **OK** on the remote control.

With AV Connection or S-VIDEO Connection:
To view picture signals from the video recorder, set your TV to its AV mode.

With RF Connection:
The channel on which the screen in step 3 appears clearly is your video channel.
To view picture signals from the video recorder, set your TV to the Video Channel.

Clock Set

Turn on the TV and select the VIDEO channel (or AV mode).



Just Clock
The Just Clock function provides accurate time keeping through automatic adjustments at regular intervals, by reading data from a PDC signal.
The Just Clock option can be set "ON" or "OFF" at the Clock Set screen (the default setting is "OFF"). Press OK until the Just Clock setting begins blinking, then press Δ or ∇ to change the setting.
IMPORTANT: If you turn off Just Clock, the accuracy of your recorder's built-in clock may be reduced, which could adversely affect timer recording. We recommend you to keep Just Clock on. In cases where the clock setting data from a PDC signal is incorrect, however, you are advised to keep Just Clock set to "OFF".

IMPORTANT

If you performed Auto Set Up (pg. 6), Preset Download (pg. 8) or Auto Channel Set (pg. 56), without ever having set the clock previously, the recorder's built-in clock is also set automatically.

Perform the following steps only if —

— Auto Clock Set has not been performed correctly by Auto Set Up, Preset Download or Auto Channel Set.

or

— the recorder's memory backup has expired.

or

— you want to change Just Clock setting (pg. 12) "Just Clock" in the left column).

1 TURN THE RECORDER ON

Press ψ /I.

2 ACCESS MAIN MENU SCREEN

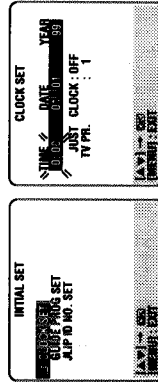
Press MENU.

3 ACCESS INITIAL SET SCREEN

Move the highlight bar (pointer) to "INITIAL SET" by pressing Δ or ∇ , then press OK or $\triangleright$.

4 ACCESS CLOCK SET SCREEN

Move the highlight bar (pointer) to "CLOCK SET" by pressing Δ or ∇ , then press OK or $\triangleright$. The Clock Set screen appears.



NOTE:

When you have selected MACYARORSZAG (36), CIESKA REPUBLIKA (42), POLSKA (48) or OTHER EASTERN EUROPE (EE) for the country setting (pg. 6, 10), you cannot use Just Clock function. Skip steps 6 and 7 on page 65.

5 SET DATE AND TIME

Press Δ or ∇ to set the time, then press OK or $\triangleright$. The "date" display begins blinking. Repeat the same procedure to set the date and year.

- When you set the time, press and hold Δ or ∇ to change the time by 30 minutes.
- When you set the date, press and hold Δ or ∇ to change the date by 15 days.

6 SET JUST CLOCK

The default setting is "OFF". Set as desired by pressing Δ or ∇ , then press OK or $\triangleright$.

- For the Just Clock function, pg. 12 "Just Clock" on page 64.
- If you set to "OFF", you can disregard the next step as you won't be able to receive regular clock adjustments.

7 SET CLOCK DATA SOURCE CHANNEL POSITION

The recorder is preset to receive clock setting and adjustment data from channel position 1. Press Δ or ∇ to set the channel position to the number representing the station transmitting clock setting data, then press OK or $\triangleright$.

8 START CLOCK OPERATION

Press MENU.

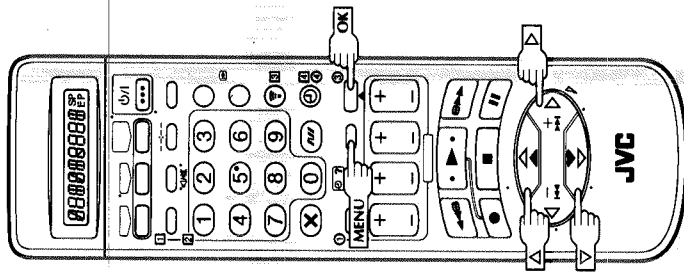
NOTES:

- Just Clock (when set to "ON") adjusts the recorder's built-in clock every hour, except for 23:00, 0:00, 1:00 and 2:00.
- Just Clock is not effective when ...
 - the recorder's power is on.
 - the recorder is in the Timer mode.
 - a difference of more than 3 minutes exists between the built-in clock's time and the actual time.
 - the recorder is in the Auto Satellite Prog Rec mode (pg. 35).
 - the recorder is in the Power Save mode (pg. 12).
- If Just Clock is set to "ON", the recorder's clock is automatically adjusted at the start/end of Summer time.
- Just Clock may not function properly depending on the reception condition.

6

7

8



SHOWVIEW Setup

IMPORTANT

Normally, Auto Set Up (⏏ pg. 6), Preset Download (⏏ pg. 8) or Auto Channel Set (⏏ pg. 56) sets the Guide Program Numbers automatically. You need to set the Guide Program Numbers manually only in the following cases.

- When timer-programming with ShowView, the channel position, where the station you wish to record is received on your recorder, is not selected or when you add a channel after Auto Set Up or Auto Channel Set has taken place.
- Set the Guide Program Number for that station manually.
- When you delete a channel or change channel positions manually after Auto Set Up or Auto Channel Set has taken place.
- Set the Guide Program Numbers for all the receivable stations manually.
- When you wish to timer-record a satellite programme with ShowView.
- Set the Guide Program Numbers for all satellite broadcasts received on your satellite tuner.

Turn on the TV and select the VIDEO channel (or AV mode).

Guide Program Number Set

1 ACCESS MAIN MENU SCREEN

Press MENU.

2 ACCESS INITIAL SET SCREEN

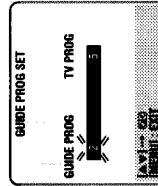
Press Δ or ∇ to move the highlight bar (pointer) to "INITIAL SET", then press OK or $\triangleright$.

3 ACCESS GUIDE PROG SET SCREEN

Press Δ or ∇ to move the highlight bar (pointer) to "GUIDE PROG SET", then press OK or $\triangleright$.

4 ENTER GUIDE PROG NUMBER

Press Δ or ∇ or NUMBER keys to enter the Guide Program number as shown in the TV listings. Then press OK or $\triangleright$.



(Ex.) When inputting the Guide Program number 2 for ZDF.

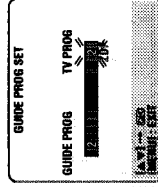
5 ENTER RECEIVING CHANNEL POSITION NUMBER

Press Δ or ∇ or NUMBER keys to input the number of the recorder's channel position on which the Guide Program number's broadcast is received. Then press OK or $\triangleright$.

- If the satellite broadcast is received on your recorder's auxiliary channel "L-2", select "L-2" for the channel position.
- Repeat steps 4 and 5 as necessary.

6 RETURN TO NORMAL SCREEN

Press MENU.



(Ex.) If ZDF is received on channel position 2.

Guide Program Number

"Guide Program (GUIDE PROG) number" refers to the assigned TV station numbers, according to broadcast area, for ShowView timer recording. The Guide Program numbers can be found in most TV listings.

TROUBLESHOOTING

Before requesting service for a problem, use this chart and see if you can repair the trouble yourself. Small problems are often easily corrected, and this can save you the trouble of sending your video recorder off for repair.

POWER		
SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. No power is applied to the recorder.	• The mains power cord is disconnected.	Connect the mains power cord.
2. The clock is functioning properly, but the recorder cannot be powered.	• "Q" is displayed on the display panel with Auto Timer set to "Off".	Press the Q button to turn the "Q" indicator off.
3. The remote control won't function.	• The batteries are discharged.	Replace the dead batteries with new ones.
TAPE TRANSPORT		
SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The tape does not run during recording.	• "E" is displayed on the display panel.	Press PLAY to turn the "E" indicator off.
2. The tape will not rewind or fast-forward.	• The tape is already fully rewound or fast-forwarded.	Check the cassette.
PLAYBACK		
SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. The playback picture does not appear while the tape is running.	• If you're using the RF OUT connection the TV receiver's channel selector is not set to the VIDEO channel. ... the recorder's VIDEO channel has not been correctly set. • If you're using the AV or S-VIDEO connection, the TV receiver is not set to the AV mode.	If you are using the RF OUT connection set the TV receiver to the VIDEO channel. ... perform "Video Channel Set". (⏏ pg. 63) If you are using the AV or S-VIDEO connection, set the TV to its AV mode.
2. Noise appears during visual search.	• This is normal during visual search other than TimeScan.	
3. Noise appears during normal playback.	• The automatic tracking mode is engaged.	Try manual tracking. (⏏ pg. 17)
4. The playback picture is blurred or interrupted while TV broadcasts are clear.	• The video heads may be dirty.	Consult your JVC dealer.
5. Breaks are noticeable in Hi-Fi soundtrack.	• Automatic tracking is engaged.	Engage and adjust tracking manually. (⏏ pg. 17)
RECORDING		
SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Recording cannot be started.	• There is no cassette loaded, or the cassette loaded has had its Record Safety tab removed.	Insert a cassette, or using adhesive tape, reseal the slot where the tab was removed.
2. TV broadcasts cannot be recorded.	• "L-1", "L-2", "F-1" or "S-1" has been selected as the input mode.	Set to the desired channel.
3. Tape-to-tape editing is not possible.	• The source (another video recorder, camcorder) has not been properly connected. • All necessary power switches have not been turned on. • The input mode is not correct.	Confirm that the source is properly connected. Confirm that all units' power switches are turned on. Set the input mode to "L-1", "L-2", "F-1" or "S-1".
4. Camcorder recording is not possible.	• The camcorder has not been properly connected. • The input mode is not correct.	Confirm that the camcorder is properly connected. Set the input mode to "L-1", "L-2", "F-1" or "S-1".

TIMER RECORDING

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Timer recording won't work.	- The clock and/or the timer have been set incorrectly. - The timer is not engaged.	Re-perform the clock and/or timer settings. Press ⏰ and confirm that "⏰" is displayed on the display panel.
2. Timer programming is not possible.	Timer recording is in progress.	Timer programming can't be performed while a timer recording is in progress. Wait until it finishes.
3. "⏰" and "⏰" on the display panel won't stop blinking.	The timer is engaged but there's no cassette loaded.	Load a cassette with the Record Safety tab intact, or cover the hole using adhesive tape.
4. The cassette is automatically ejected, and "⏰" and "⏰" on the display panel won't stop blinking.	The loaded cassette has had its Record Safety tab removed.	Remove the cassette and cover the hole with adhesive tape, or insert a cassette with the Record Safety tab intact.
5. "⏰" blinks for 10 seconds and the timer mode is disengaged.	⏰ has been pressed when there are no programs in memory, or the timer record information has been programmed incorrectly.	Check the programmed data and re-program as necessary, then press ⏰ again.
6. The cassette is automatically ejected, the power shuts off and "⏰" and "⏰" won't stop blinking. However, the cassette may not be ejected when the front panel is closed.	The end of the tape was reached during timer recording.	The programme may not have been recorded in its entirety. Next time make sure you have enough time on the tape to record the entire programme. When the front panel is closed and the cassette cannot be ejected fully, push the cassette into the recorder, then press STOP/EJECT to remove the cassette.
7. ShowView does not timer-record properly.	The recorder's channel positions have been set incorrectly.	Refer to "Guide Program Number Set" and re-perform the procedure (cf. pg. 66).

OTHER PROBLEMS

SYMPTOM	POSSIBLE CAUSE	CORRECTIVE ACTION
1. Whistling or howling is heard from the TV during camcorder recording.	The camcorder's microphone is too close to the TV.	Position the camcorder so its microphone is away from the TV. Turn the TV's volume down.
2. When scanning channels, some of them are skipped over.	- The TV's volume is too high. - Those channels have been designated to be skipped.	If you need the skipped channels, restore them (cf. pg. 58).
3. The channel cannot be changed.	Recording is in progress.	Press PAUSE to pause the recording, change channels, then press PLAY to resume recording.
4. Channel settings that were made manually seem to have changed or disappeared.	After the manual settings were made, Auto Channel Set was performed.	Perform manual setting again.
5. No channels are stored in the recorder's memory.	The TV aerial cable was not connected to the recorder when Auto Set Up was performed.	Connect the TV aerial cable to the recorder properly and turn off the recorder power once, then turn the recorder power back on again. The recorder will try Auto Set Up again (cf. pg. 6).
6. The remote control won't operate the TV or satellite tuner.	The remote control brand setting is incorrect.	Re-set the remote control to the correct brand (cf. pg. 37, 38).

QUESTIONS AND ANSWERS

PLAYBACK

Q. What happens if the end of the tape is reached during playback or search?

A. The tape is automatically rewound to the beginning.

Q. Can the video recorder indefinitely remain in the still mode?

A. No. It stops automatically after 5 minutes to protect the heads.

Q. When returning from multi-speed search to normal playback, the picture is disturbed. Should I be concerned about this?

A. No, it is normal.

Q. Other than preventing further recording, what effect does removing the Record Safety tab have?

A. It disables marking of index codes.

Q. Sometimes, during Index Search, the video recorder can't find the programme I want to see. Why not?

A. There may be index codes too close together.

RECORDING

Q. When I pause and then resume a recording, the end of the recording before the pause is overlapped by the beginning of the continuation of recording. Why does this happen?

A. This is normal. It reduces distortion at the pause and resume points.

Q. Can the video recorder indefinitely remain in the Record-Pause mode?

A. No. The video recorder goes to its Stop mode automatically after 5 minutes to protect the heads.

Q. What happens if the tape runs out during recording?

A. The video recorder automatically rewinds it to the beginning.

TIMER RECORDING

Q. "⏰" and "⏰" remain lit on the display panel. Is there a problem?

A. No. This is a normal condition for a timer recording in progress.

Q. Can I programme the timer while I'm watching a tape or a TV broadcast?

A. You won't see the picture as it is replaced by the on-screen menu, but the audio from the programme or tape you're viewing can be heard.

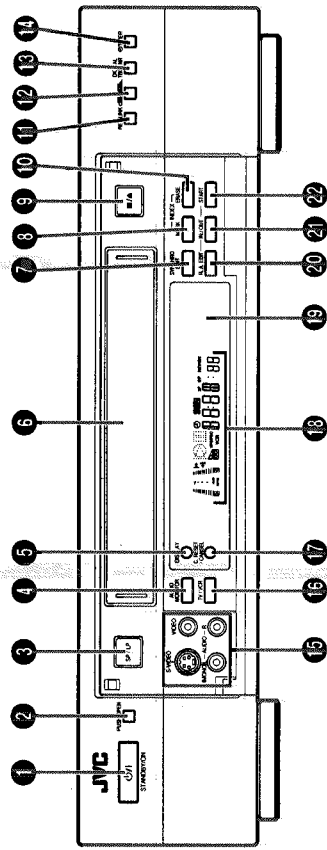
Q. Is it possible to timer-record a TV programme broadcast in 2000?

A. Yes, it is possible.

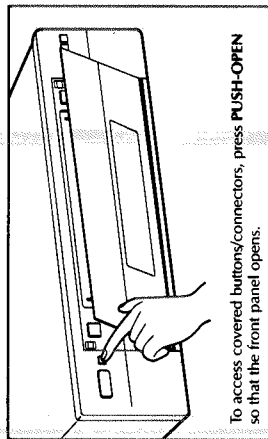
ATTENTION

This recorder contains microcomputers. External electronic noise or interference could cause malfunctioning. In such cases, switch the recorder off and unplug the mains power cord. Then plug it in again and turn the recorder on. Take out the cassette. After checking the cassette, operate the unit as usual.

FRONT VIEW

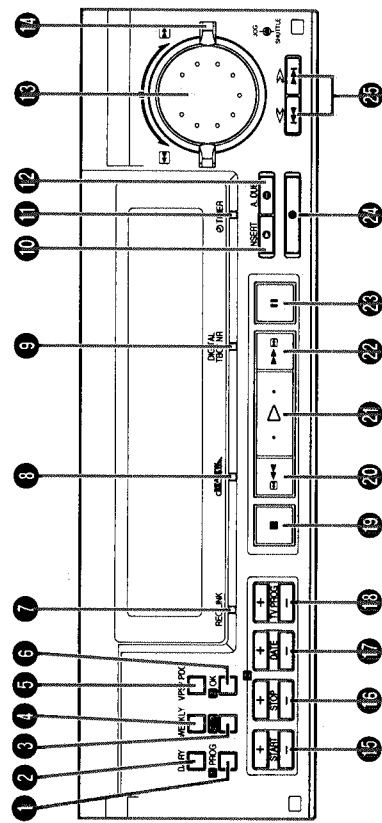


- 1 STANDBY/ON $\square$ Button $\square$ pg. 6
- 2 PUSH-OPEN Button
- 3 SPLP Button $\square$ pg. 22
- 4 AUDIO MONITOR Button $\square$ pg. 19
- 5 DISPLAY Button $\square$ pg. 23
- 6 Cassette Loading Slot
- 7 SYNCHRO EDIT Button $\square$ pg. 41
- 8 INDEX MARK Button $\square$ pg. 17
- 9 STOP/EJECT Button $\square$ pg. 15
- 10 INDEX ERASE Button $\square$ pg. 17
- 11 REC LINK Button $\square$ pg. 35
- 12 REVIEW Button $\square$ pg. 19
- 13 DIGITAL TBC/NR Button $\square$ pg. 18
- 14 IN/OUT Button $\square$ pg. 49
- 15 START Button $\square$ pg. 49
- 16 CANCEL Button $\square$ pg. 49
- 17 Display Panel $\square$ pg. 72
- 18 Infrared Beam Receiving Window
- 19 Random Assemble Edit [R.A. EDIT] Button $\square$ pg. 48
- 20 TIMER Button $\square$ pg. 29, 31
- 21 S-VIDEO/VIDEO/AUDIO Input Connectors $\square$ pg. 40, 46
- 22 TV/VCR Button $\square$ pg. 23



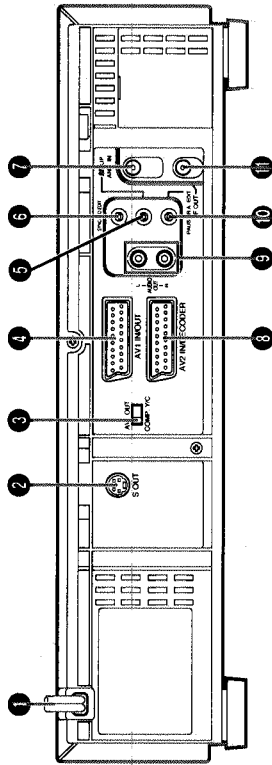
To access covered buttons/connectors, press **PUSH-OPEN** so that the front panel opens.

INSIDE VIEW OF FRONT PANEL



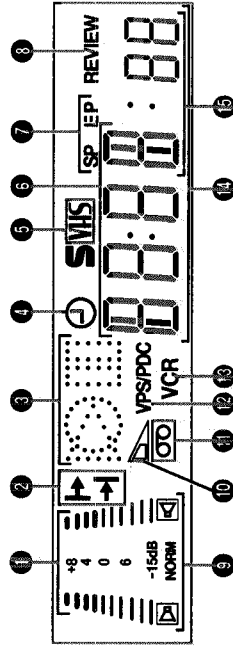
- 1 PROG Button $\square$ pg. 28
- 2 DAILY Button $\square$ pg. 29, 31
- 3 ? Button $\square$ pg. 32
- 4 WEEKLY Button $\square$ pg. 29, 31
- 5 VPS/PDC Button $\square$ pg. 29, 31
- 6 OK Button $\square$ pg. 7
- 7 REC LINK Indicator $\square$ pg. 35
- 8 REVIEW Indicator $\square$ pg. 19
- 9 DIGITAL TBC/NR Indicator $\square$ pg. 18
- 10 INSERT Button $\square$ pg. 46
- 11 TIMER Indicator $\square$ pg. 29, 31
- 12 Audio Dubbing [A. DUB] Button $\square$ pg. 45
- 13 JOG Dial $\square$ pg. 16
- 14 SHUTTLE Ring $\square$ pg. 15 - 17
- 15 START +/- Button $\square$ pg. 30
- 16 STOP +/- Button $\square$ pg. 30
- 17 DATE +/- Button $\square$ pg. 30
- 18 TV PROG +/- Buttons $\square$ pg. 22
- 19 STOP Button $\square$ pg. 15
- 20 Rewind [REW] Button $\square$ pg. 15 - 17
- 21 Fast Forward [FF] Button $\square$ pg. 15 - 17
- 22 PAUSE Button $\square$ pg. 16
- 23 RECORD Button $\square$ pg. 22
- 24 << and >> Buttons $\square$ same as $\square$ pg. 16, 17, 20
- 25 Button on remote control $\square$ pg. 16, 17, 20

REAR VIEW



- 1 Mains Power Cord pg. 4
- 2 S-VIDEO OUT Connector pg. 5
- 3 AV1 OUT Switch pg. 4
- 4 AV1 IN/OUT Connector pg. 4, 41, 42, 48, 51 - 54
- 5 J terminal ILLP (Joint Level Interface Protocol) Connector pg. 50
- 6 SYNCHRO EDIT Connector pg. 41
- 7 ANT. IN Connector pg. 4
- 8 AV2 IN/DECODER Connector pg. 42, 51 - 54
- 9 AUDIO OUT (L/R) Connectors pg. 55
- 10 Remote PAUSE Connector pg. 40
- 11 RF OUT Connector pg. 4

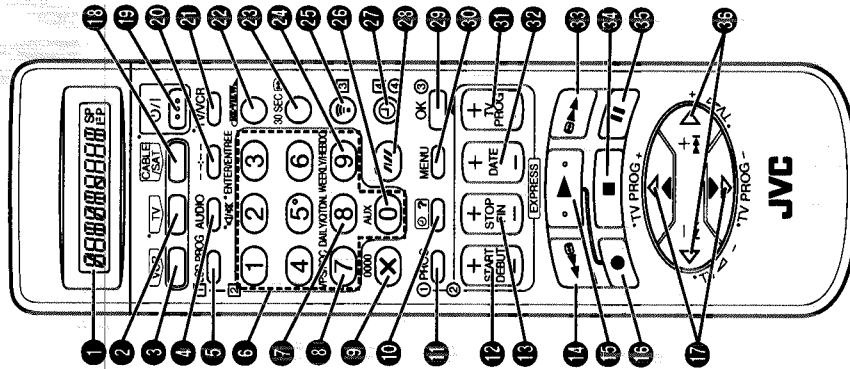
DISPLAY PANEL



- 1 B.E.S.T. Picture System Display pg. 26
- 2 Audio Level Indicator pg. 25
- 3 Programme Time Indicators pg. 30
- 4 Symbolic Mode Indicators
- 5 "Timer" Indicator pg. 29, 31
- 6 S-VHS Indicator pg. 24
- 7 Channel/Clock Display pg. 9
- 8 Tape Speed Indicators pg. 22
- 9 *EP is only for NTSC playback
- 10 Instant REVIEW Indicator pg. 19
- 11 Audio Mode Indicator pg. 19
- 12 Tape Remaining Time Indicator pg. 23
- 13 "Cassette Loaded" Mark
- 14 VPS/PDC Indicator pg. 29, 31
- 15 VCR Indicator pg. 23
- 16 Counter/Remain Display
- 17 Mode Display (L-1, L-2, F-1 or S-1)

PLAY: FF/REW VARIABLE SEARCH:	STILL:	
	SLOW:	
RECORD:	RECORD PAUSE:	
	AUDIO DUBBING:	
AUDIO DUBBING PAUSE:		
INSERT:		
INSERT PAUSE:		
AUDIO DUBBING INSERT:		
AUDIO DUBBING INSERT PAUSE:		

REMOTE CONTROL



- 1 LCD Panel pg. 28, 74
- 2 TV Button pg. 37, 74
- 3 VCR Button pg. 36, 74
- 4 AUDIO Button pg. 19
- 5 LCD (TV Muting) Button pg. 37
- 6 LCD PROG Button pg. 28
- 7 NUMBER KEYS pg. 22, 28
- 8 DAILY Button pg. 29, 31
- 9 VPS/PDC Button pg. 29, 31
- 10 X Button pg. 28, 32, 49
- 11 0000 Button pg. 23, 47
- 12 ? Button pg. 32
- 13 PROG Button pg. 28
- 14 START +/- Button pg. 30
- 15 STOP +/- Button pg. 30
- 16 Rewind [REW] Button pg. 15, 17
- 17 Play Button pg. 15
- 18 Record Button pg. 22
- 19 F.F. Button pg. 6
- 20 TV PROG +/- Button pg. 37
- 21 CABLE/SAT Button pg. 38, 74
- 22 STANDBY/ON (I) Button pg. 6
- 23 --- Button pg. 23
- 24 TV/VCR Button pg. 23, 37
- 25 REVIEW Button pg. 19
- 26 30 SEC Button pg. 17
- 27 WEEKLY Button pg. 29, 31
- 28 ? Button pg. 28
- 29 AUX Button pg. 40
- 30 ? Button pg. 29, 31
- 31 (Auto Tracking) Button pg. 17
- 32 SP/LP Button pg. 22
- 33 OK Button pg. 7
- 34 MENU Button pg. 10
- 35 TV PROG +/- Button pg. 22
- 36 DATE +/- Button pg. 30
- 37 Fast Forward [FF] Button pg. 15, 17
- 38 Stop Button pg. 15, 22
- 39 Pause Button pg. 16
- 40 <D> Button pg. 16, 20
- 41 TV +/- Button pg. 37

Buttons with a small dot on the left side of the name can also be used to operate your TV. (pg. 37)

How To Use

The remote control can operate most of your video recorder's functions, as well as basic functions of TV sets and satellite tuners of JVC and other brands. (pg. 37, 38)

- Point the remote control toward the sensor window.
- The maximum operating distance of the remote control is about 8 m.

NOTES:

- When inserting the batteries, be sure to insert in the correct directions as indicated under the battery cover.
- If the remote control doesn't work properly, remove its batteries, wait a short time, replace the batteries and then try again.

Remote Control LCD

The remote control can operate not only the video recorder but also some of your TV and satellite tuner's functions. The LCD indicates which of these (VIDEO, TV or CABLE/SAT) the remote control can currently operate. When you first purchase the remote control, or after you have just replaced the batteries, VIDEO A (A code) is selected.

- 1 To operate your video recorder, first press the **VCR** button to set the remote control to the Video mode (cf. pg. 36).
- 2 To operate your TV, first press the **TV** button to set the remote control to the TV mode (cf. pg. 37).
- 3 To operate your satellite tuner, first press the **CABLE/SAT** button to set the remote control to the Satellite tuner mode (cf. pg. 38).

NOTES:

Even if "TV" is displayed on the LCD, the following operations can be performed without switching the mode.

- Basic operations for the recorder
- After an operation is completed, "TV" reappears on the LCD.
- Express Timer Programming and SnowView Timer Programming operations
- To perform a TV operation again, switch to TV mode first.
- Accessing main menu
- To perform a TV operation again, switch to TV mode first.

VIDEO A

TV

CABLE SAT

Auto Set Up – referring to the display panel

The Auto Set Up function sets the tuner channels, clock and Guide Program numbers automatically.

BEFORE YOU START PLEASE MAKE SURE THAT:

- The TV aerial cable is connected to the ANT.IN jack on the rear panel of the video recorder.
- The video recorder's mains power cord is connected to a mains outlet.
- The video recorder is turned off.
- Load batteries into the remote control.

1 Press ψ /I (recorder/remote).

SET 32

2 Press Δ / ∇ (remote) to select the international telephone country code.

(Ex.) DEUTSCHLAND is selected.

SET 49

International Telephone Country Code	
BELGIUM	: 32 NORGE
ČESKÁ REPUBLIKA	: 42 ÖSTERREICH
DANMARK	: 45 POLSKA
DEUTSCHLAND	: 49 PORTUGAL
ESPAÑA	: 34 SUISSE
GREECE	: 30 SUOMI
ITALIA	: 39 SVERIGE
MAGYARORSZÁG	: 36 OTHER WESTERN EUROPE
NETHERLAND	: 31 OTHER EASTERN EUROPE

• If you have selected a country code other than 32 (BELGIUM) or 41 (SUISSE), go to step 3.

• If you have selected 36 (MAGYARORSZÁG), 42 (ČESKÁ REPUBLIKA), 48 (POLSKA) or EE (OTHER EASTERN EUROPE), press **OK**. Clock Set screen will appear. Set the clock manually (cf. pg. 64 – 65), then go to step 3.

• If you have selected 32 (BELGIUM) or 41 (SUISSE), press **OK** (remote) and select the language code by pressing Δ / ∇ (remote), then go to step 3.

(Ex.) FRANCAIS is selected for BELGIUM

International Telephone Country Code	
32-03	Language Code

Language Code

ENGLISH	: 01	NEDERLANDS	: 06
DEUTSCH	: 02	SVENSKA	: 07
FRANCAIS	: 03	NORSK	: 08
ITALIANO	: 04	SUOMI	: 09
CASTELLANO	: 05	DANSK	: 10

3 Press **OK** (remote). "Auto" appears on the display panel.

Auto

4 Press **OK** (remote) to start Auto Set Up. Do **NOT** press any button on the video recorder or remote control during "Auto" is blinking.

Auto

• If "----" appears on the display panel, see page 9 of the instructions.

• Once you have performed Auto Set Up, even if the recorder's memory backup has expired, the recorder will not perform Auto Set Up again. Perform tuner setting (cf. pg. 56) and/or clock setting (cf. pg. 64) as required.

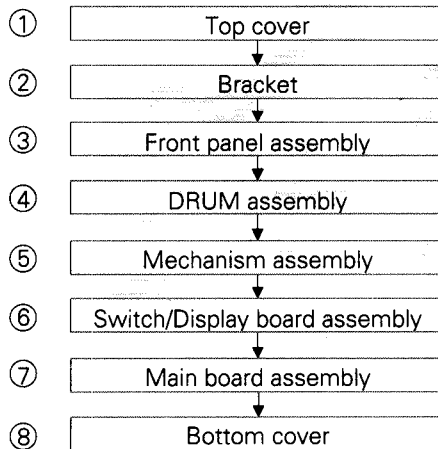
FOR MORE INFORMATION
SEE INSTRUCTIONS/P6

JVC
VICTOR COMPANY OF JAPAN, LIMITED

SECTION 1 DISASSEMBLY

1.1 DISASSEMBLY FLOW CHART

This flowchart lists the disassembling steps for the cabinet parts and P.C. boards in order to gain access to item(s) to be serviced. When reassembling, perform the step(s) in reverse order. Bend, route and dress the flat cables as they were originally laid.



1.2 HOW TO READ THE DISASSEMBLY AND ASSEMBLY

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1), (S2)	
②	BRACKET	D2	2(S3)	
③	FRONT PANEL ASSEMBLY [HR-S9600EU]	D3-1	9(L1), CN7002 (WR1)	<NOTE 1> <NOTE 2>
		D3-2	4(S4), SHAFT, HOLDER, DAMPER ASSY, MEMBRANE DOOR ASSY	

- (1) Order of steps in Procedure
When reassembling, perform the step(s) in the reverse order. These numbers are also used as the identification (location) NO. of parts Figures.
- (2) Part name to be removed or installed.
- (3) Fig.No. showing procedure or part location
- (4) Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped or unsoldered. P = Spring, W = Washer, S = Screw, L = Locking tab, CNxx(WRxx) = Remove the wire (WRxx) from the connector (CNxx).

NOTE: The bracketed () WR of the connector symbol are assigned nos. in priority order and do not correspond to those on the spare parts list.

- (5) Adjustment information for installation

1.3 DISASSEMBLY/ASSEMBLY METHOD

STEP /LOC NO.	PART NAME	FIG. NO.	POINT	NOTE
①	TOP COVER	D1	4(S1), (S2)	
②	BRACKET	D2	2(S3)	
③	FRONT PANEL ASSEMBLY [HR-S9600EU]	D3-1	9(L1), CN7002 (WR1)	<NOTE 1> <NOTE 2>
		D3-2	4(S4), SHAFT, HOLDER, DAMPER ASSY, MEMBRANE DOOR ASSY	
	FRONT PANEL ASSEMBLY [HR-S8600EU]	D3-3	9(L2), 2(L3), 2(S5), CN3012(WR2), CN7191(WR3), CN7192(WR4), JACK BOARD ASSY	
④	DRUM ASSEMBLY	D4	3(S6), 4(L4), (L5), (P1), CN1(WR5), CN1(WR6), INERTIA PLATE, ROLLER ARM ASSY	<NOTE 2>
⑤	MECHANISM ASSEMBLY	D5	2(S7), 2(S8), 2(L6), CN1(WR7)	<NOTE 2> <NOTE 3>
⑥	SWITCH/DISPLAY BOARD ASSEMBLY [HR-S9600EU]	D6-1	6(L7), (L8), CN7001(WR8), CN7191(WR9), CN7192(WR10), REC SAFETY BOARD ASSY	<NOTE 2> <NOTE 4>
	SWITCH/DISPLAY BOARD ASSEMBLY [HR-S8600EU]	D6-2	8(L9), (L10), CN7001(WR11), REC SAFETY BOARD ASSY	
⑦	MAIN BOARD ASSEMBLY	D7	2(S9), (S10), (S11)	
⑧	BOTTOM COVER [HR-S9600EU]	D8-1	2(S12), 4(L11), 7(L12), 4(L13) FOOT ASSY, FOOT (REAR)	
	BOTTOM COVER [HR-S8600EU]	D8-2	2(S13), 7(L14)	

<NOTE1>

- Before attaching the Front panel assembly, ensure that the door opener ② is in the lower position.

<NOTE2>

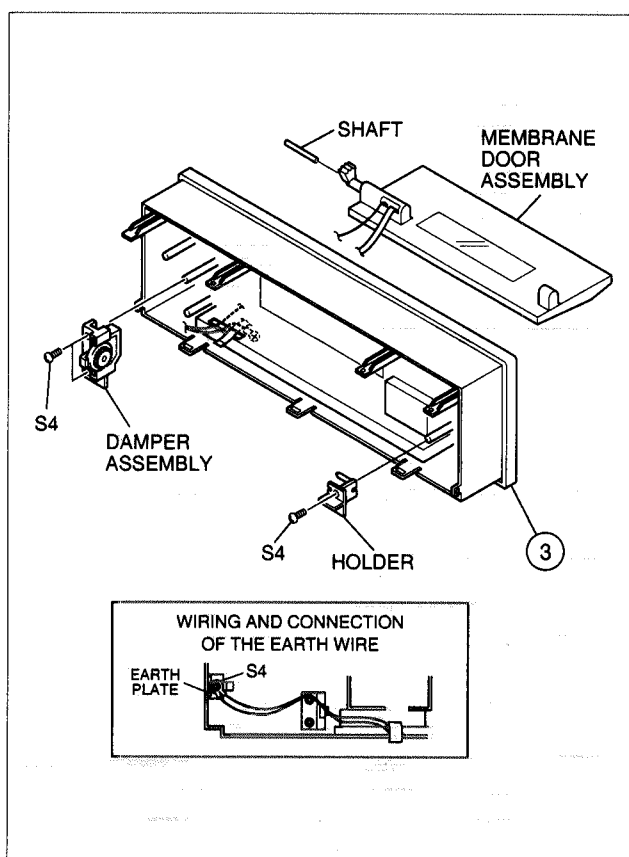
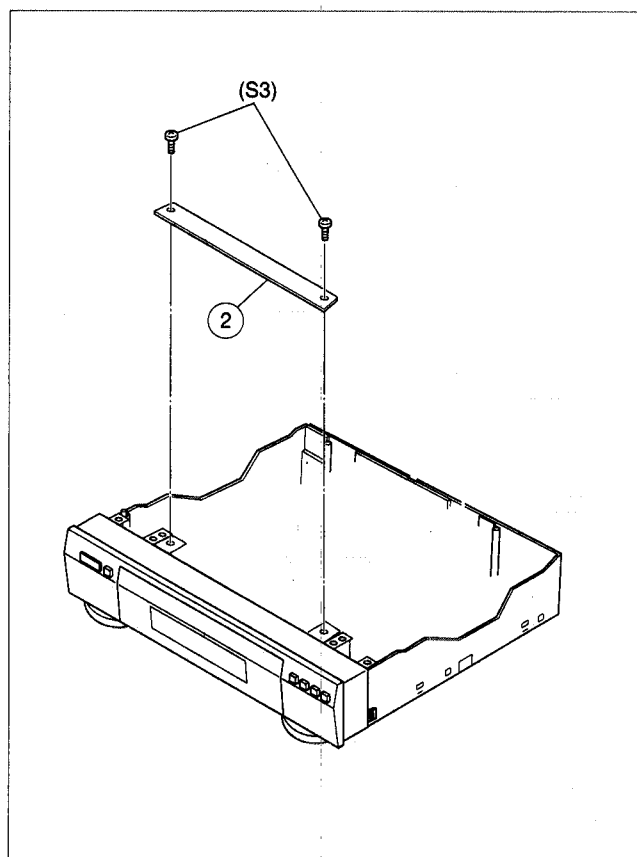
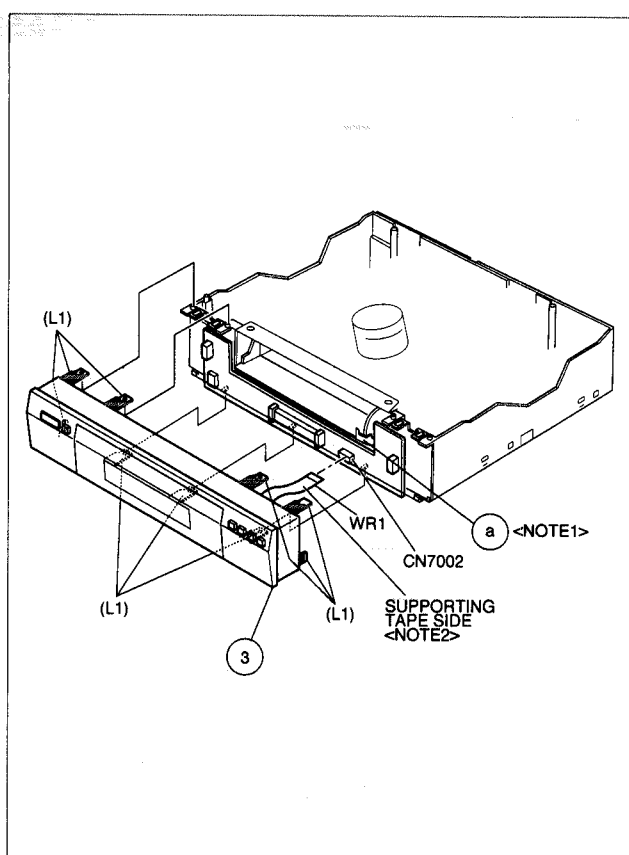
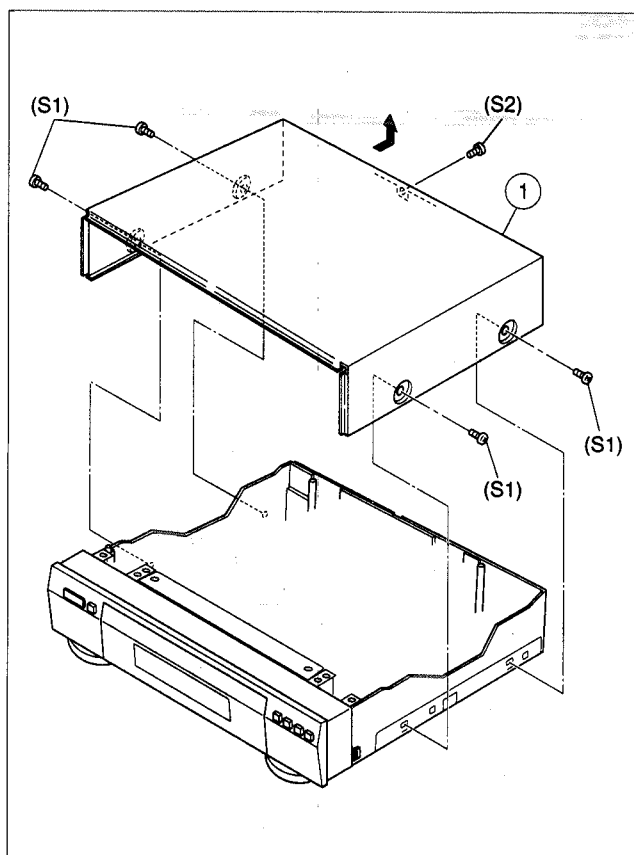
- When inserting the flat wire into the connector, be careful not to make a mistake in the positioning of its electrodes.

<NOTE3>

- When it is required to remove the screws (S7) retaining the Mechanism assembly, please refer to the "Procedures for Lowering the Cassette holder assembly"(See on pages 1-4).
- When removing the Mechanism assembly only, unhook the two spacers connecting it with the Main board assembly with pliers from the back side of the Main board assembly first, and then remove the Mechanism assembly.
- When attaching the Mechanism assembly, be careful not to damage the sensors and switches on the Main board assembly. (D3001: LED, Q3002: Start sensor, Q3003: End sensor, S3002: S tape detect switch).

<NOTE4>

- The REC safety board assembly is attached to the Switch/Display board assembly. It is therefore necessary to remove the REC safety board assembly before removing the Switch/Display board assembly.



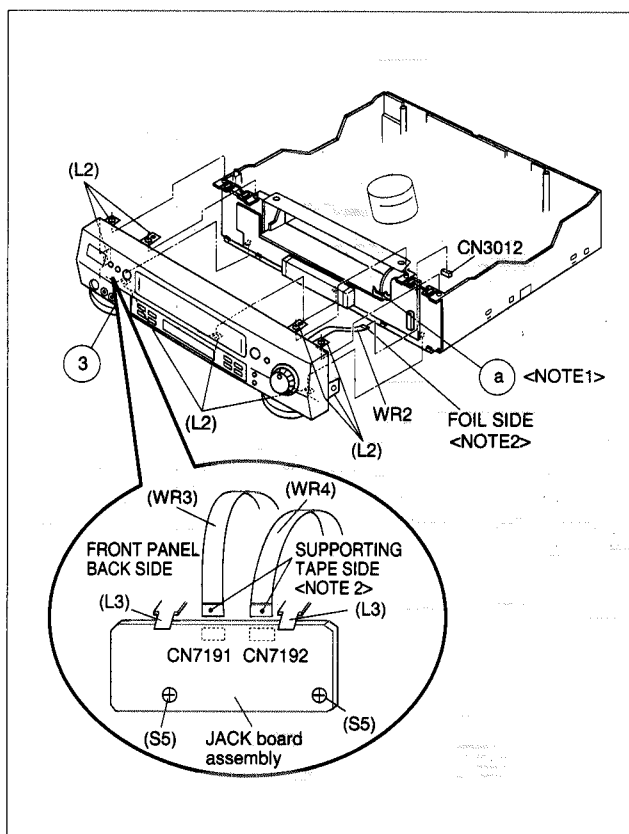


Fig. D3-3 [HR-S8600EU]

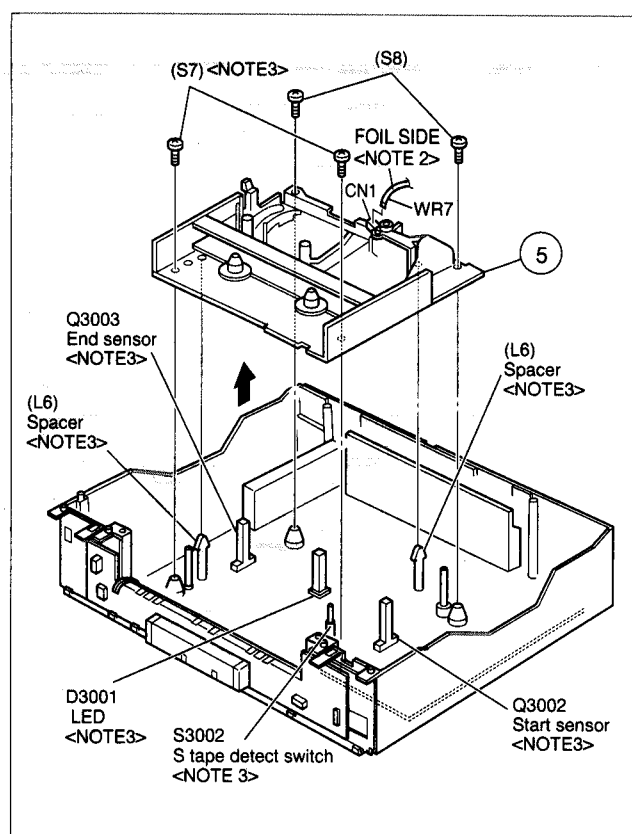


Fig. D5

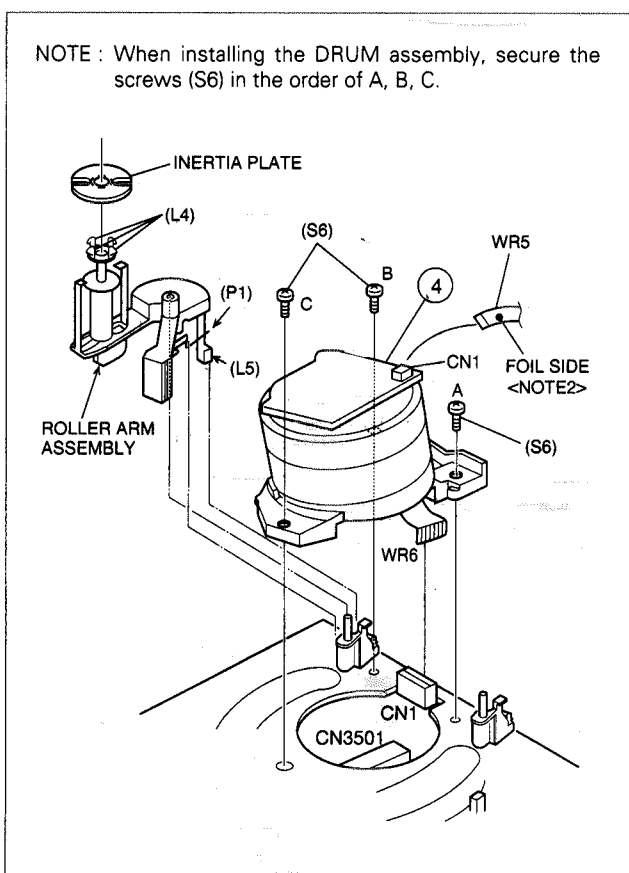


Fig. D4

Procedures for Lowering the Cassette holder assembly

As the mechanism of this unit is integrated with the Housing assembly, the holder must be lowered and the two screws unscrewed when removing the Mechanism assembly.

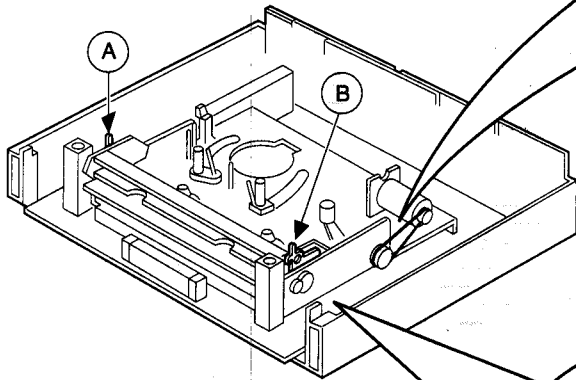


Fig. 1

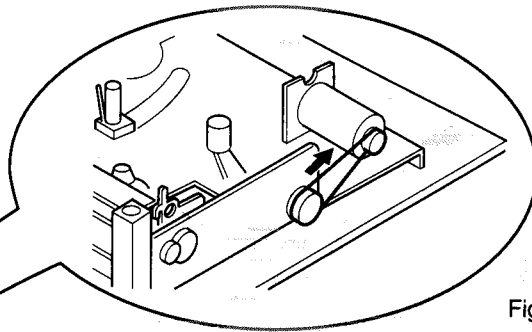


Fig. 2

Turn the loading motor pulley in the direction as indicated by Fig.2. As both (A) and (B) levers are lodged twice, push the levers in the direction as indicated by Fig.3 to release them. When pushing the levers, do it in the order of (A), (B), (B), (A). When the holder has been lowered, turn the pulley until the cassette holder is securely in place without allowing any up/down movement.

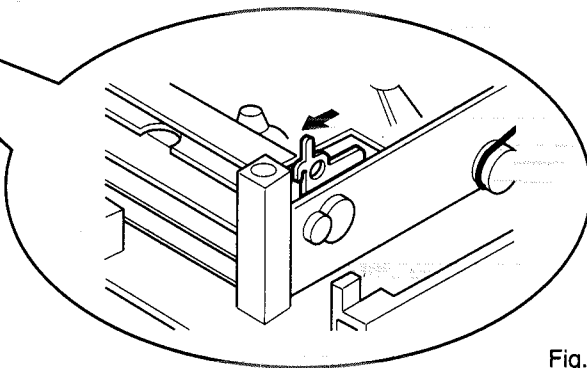


Fig. 3

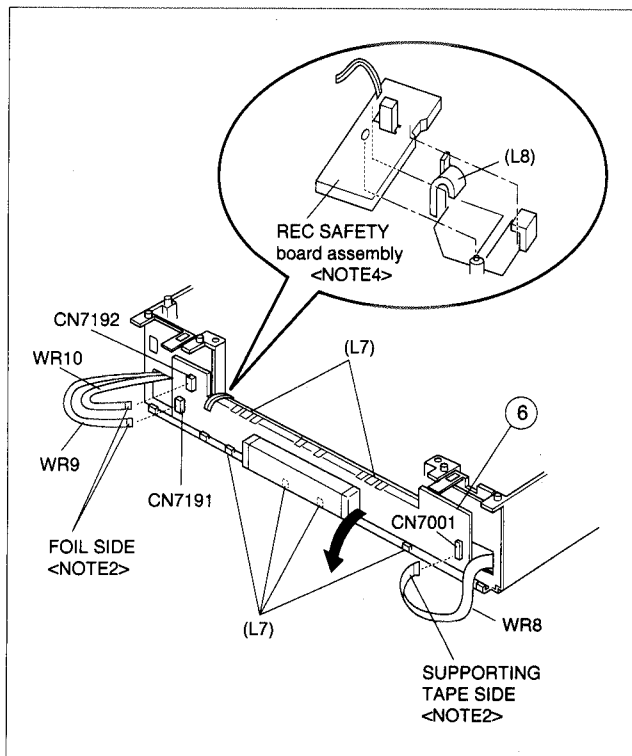


Fig. D6-1 [HR-S9600EU]

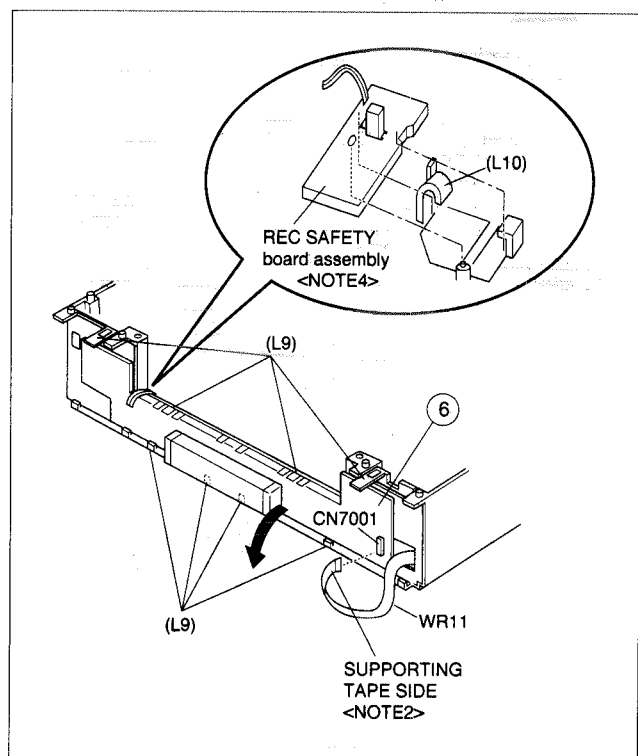


Fig. D6-2 [HR-S8600EU]

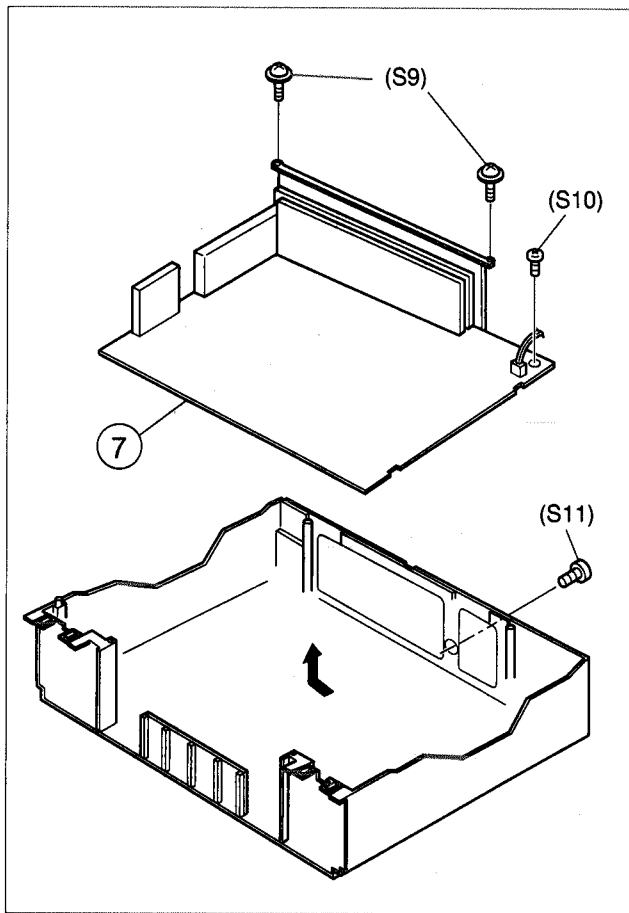


Fig. D7

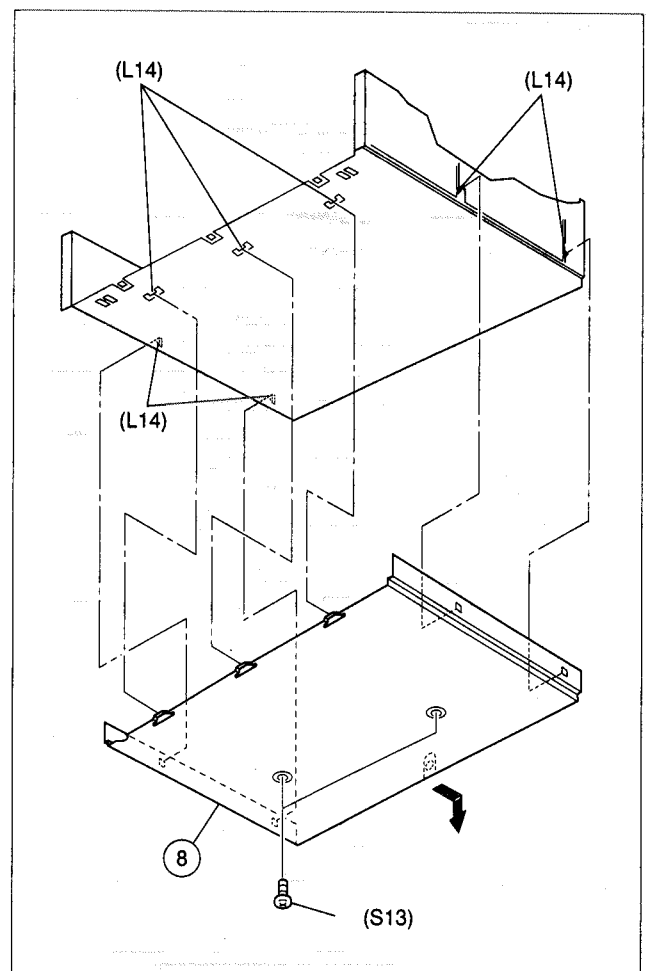


Fig. D8-2 [HR-S8600EU]

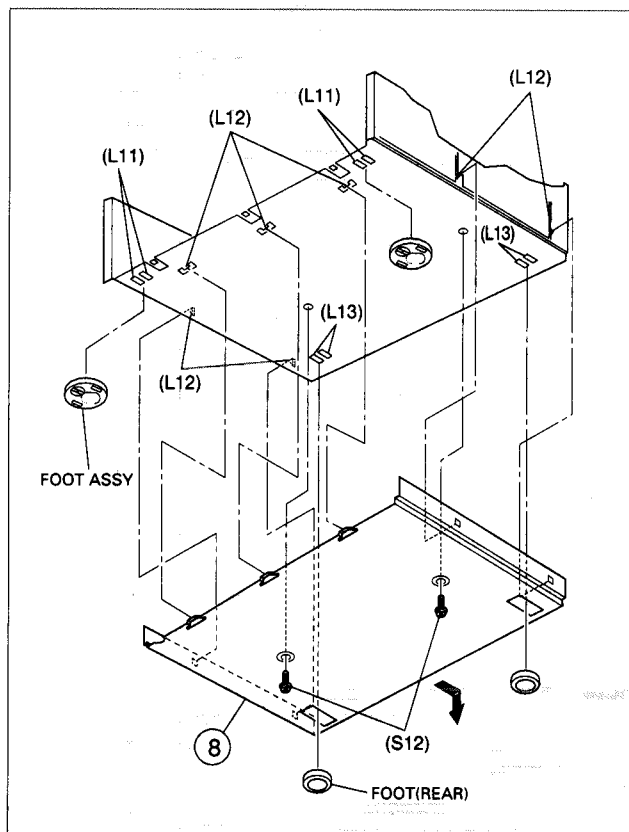


Fig. D8-1 [HR-S9600EU]

1.4 SERVICE POSITION

In order to facilitate diagnosis and the repair of the Mechanism assembly, this unit is constructed so as to allow the Mechanism and Main board assemblies to be removed together from the Chassis assembly.

1.4.1 How to take out the Mechanism and Main board assemblies [HR-S9600EU]

- (1) Remove the Top cover, Bracket and Front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the drum wire (Fig.D4) from CN1.)
- (2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
- (3) Take out 2 screws (A) and 2 screws (B) as shown in Fig. 1-4-1.
- (4) Remove the flat wires from CN3011 and CN7504 on the Main board assembly, CN7105 on the Terminal board assembly.

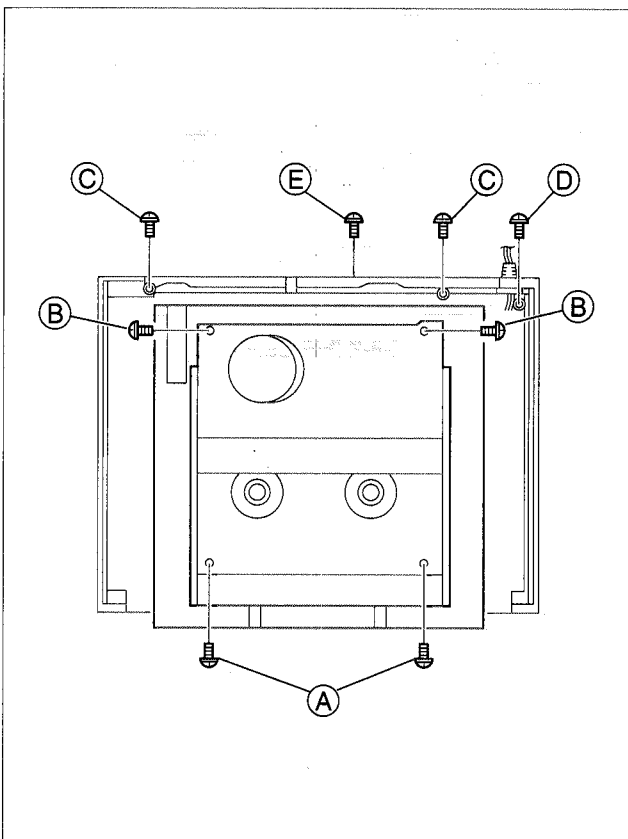


Fig. 1-4-1

- (5) Take out 2 screws (C), 1 screw (D) and 1 screw (E) as shown in Fig. 1-4-1.
- (6) Remove the Main board and Mechanism assemblies together while holding the edge of the Main board assembly. At this stage be careful of the power cord and prongs of the jacks on the back side. (See Fig. 1-4-2.)
- (7) Remove the Switch/Display board assembly and REC safety board assembly. (Refer to page 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wires (Fig. D6-1) from CN7001, CN7191 and CN7192.)

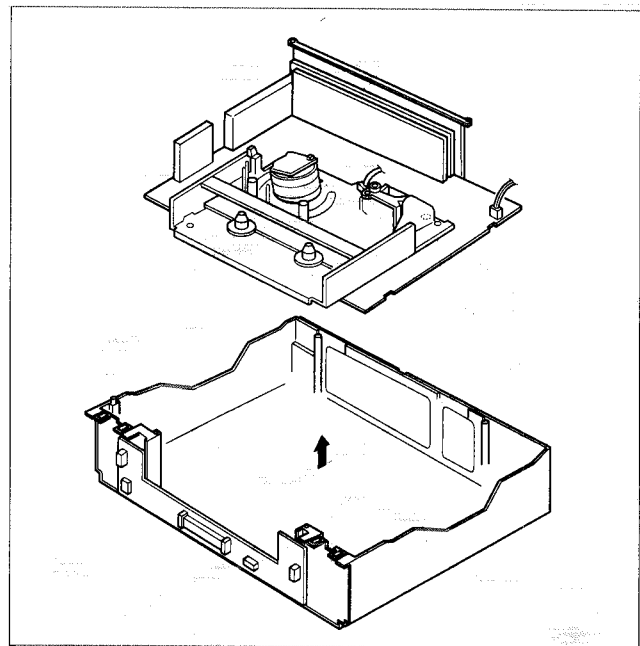


Fig. 1-4-2

- (8) Place the Switch/Display board assembly and REC safety board assembly on the front side of the Mechanism and Main board assemblies which was removed at the step (6), then connect the flat wires into CN3011 and CN7504 of the Main board assembly and CN7105 of the Terminal board assembly. (Refer to Fig. 1-4-3.)

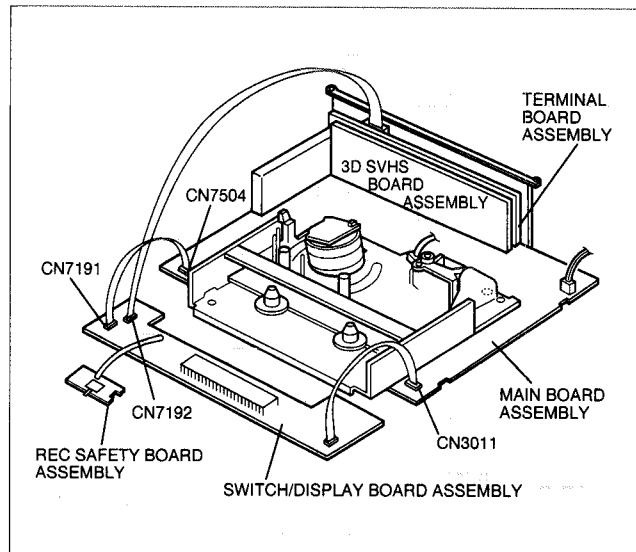


Fig. 1-4-3

- (9) Connect the power cord to the wall socket, and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note: When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.

If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.2 How to take out the Mechanism and Main board assemblies [HR-S8600EU]

- (1) Remove the Top cover, Bracket, Front panel assembly and JACK board assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the drum wire (Fig.D4) from CN1.)
- (2) Lower the cassette holder, and make the preparations required in order to remove the screws from the Mechanism assembly. (Refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
- (3) Take out 2 screws (A) and 2 screws (B) as shown in Fig. 1-4-4.
- (4) Remove the flat wires from CN3011 on the Main board assembly.

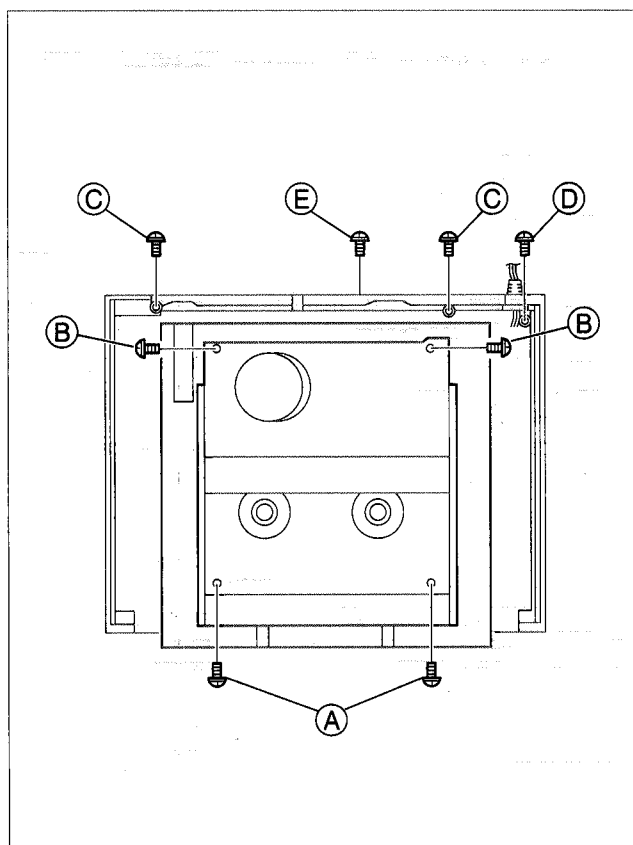


Fig. 1-4-4

- (5) Take out 2 screws (C), 1 screw (D) and 1 screw (E) as shown in Fig. 1-4-4.
- (6) Remove the Main board and Mechanism assemblies together while holding the edge of the Main board assembly. At this stage be careful of the power cord and prongs of the jacks on the back side. (See Fig. 1-4-5.)
- (7) Remove the Switch/Display board assembly and REC safety board assembly. (Refer to page 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD. Take care not to pull the flat wire (Fig. D6-2) from CN7001.)

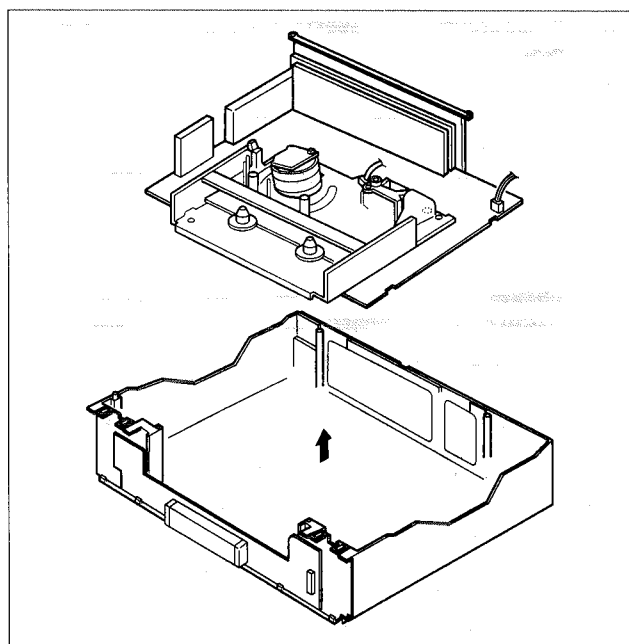


Fig. 1-4-5

- (8) Place the Switch/Display board assembly, REC safety board assembly and Jack board assembly on the front side of the Mechanism and Main board assemblies which was removed at the step (6), then connect the flat wires into CN3011 of the Main board assembly, CN7191 and CN7192 of the Jack board assembly. (Refer to Fig. 1-4-6.)

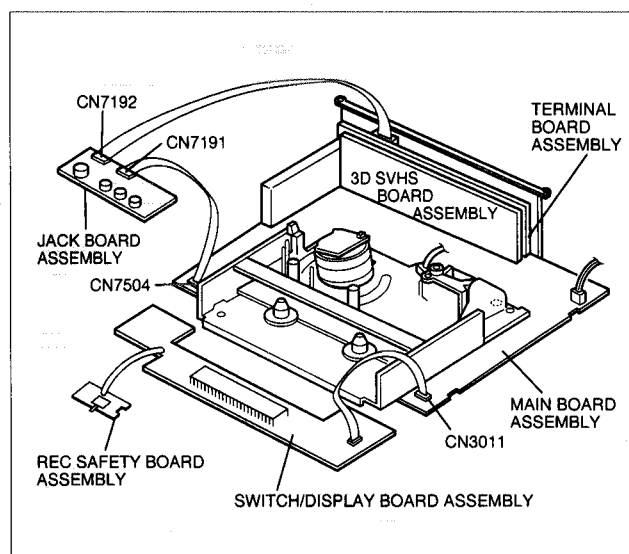


Fig. 1-4-6

- (9) Connect the power cord to the wall socket, and lift the cassette holder.
(Before turning on the power make sure that there is nothing which may produce a short circuit, such as faulty soldering.)

Note: When carrying out diagnosis and repair of the Main board assembly in the service position, be sure to ground both the Main board and the Mechanism assemblies.

If they are improperly grounded, there may be noise on the playback picture or the FDP counter display may move even when the mechanism is kept in an inoperative status.

1.4.3 Precautions for cassette loading in the "SERVICE POSITION"

The REC safety board assembly detects cassette loading as well as cassette tabs. Therefore, after the assembly has been removed in the "SERVICE POSITION", it is required to set the switch manually on the REC safety board assembly when a cassette is loaded.

1.4.4 Cassette loading and ejection methods in the "SERVICE POSITION" (See Fig. 1-4-3 or Fig. 1-4-6).

- (1) Insert a cassette halfway in the Cassette holder assembly.
- (2) Set the switch on the REC safety board assembly to ON (by pressing the switch).
- (3) As soon as the cassette starts to be loaded, set the switch on the REC safety board assembly to OFF (by releasing the switch).
- (4) Now the desired operation (recording, playback, fast forward, rewind, etc.) is possible in this status (the status shown in Fig. 1-4-3 or Fig. 1-4-6).

NOTES:

- When performing diagnostics of the tape playback or recording condition in the "SERVICE POSITION", enter the desired mode before turning the set upside down, and do not change the mode during diagnostics while the set is placed upside down. If you want to switch the mode, turn the set to the normal position (the status shown in Fig. 1-4-3 or Fig. 1-4-6).

- When performing fast-forward and rewind, be sure to turn the set to the normal position.

• In the "SERVICE POSITION", the cassette tabs cannot be detected and recording becomes possible even with a cassette with broken tabs such as the alignment tape. Be very careful not to erase important tapes.

- (5) The switch on the REC safety board assembly does not have to be operated when ejecting a tape. But be sure to turn the set to the normal position before ejecting the tape.

1.5 MECHANISM SERVICE MODE

This model has a unique function to enter the mechanism into every operation mode without loading of any cassette tape. This function is called the "MECHANISM SERVICE MODE".

1.5.1 How to set the "MECHANISM SERVICE MODE"

- (1) Disconnect VCR from AC.
- (2) Connect TPGND and TP7001(TEST) on the Switch/Display board assembly with a jump wire.
- (3) Connect VCR to AC.
- (4) Press the POWER button.
- (5) With lock levers (A)(B) on the left and right of the Cassette holder assembly pulled toward the front, slide the holder in the same direction as the cassette insertion direction. (For the positions of lock levers (A)(B), refer to the "Procedures for Lowering the Cassette holder assembly" on pages 1-4 of 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
- (6) The cassette holder lowers and, when the loading has completed, the mechanism enters the desired mode.

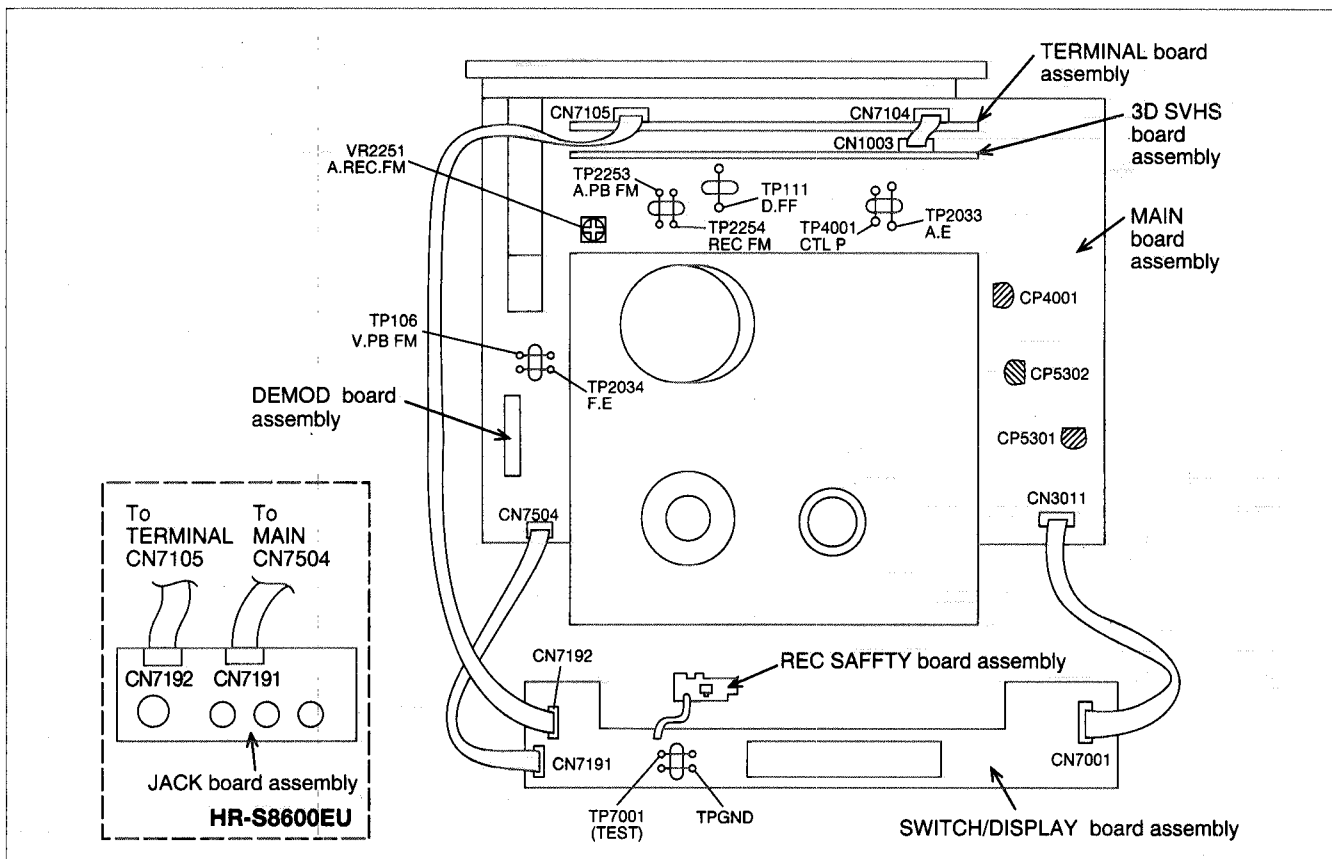


Fig. 1-5-1

1.6 EMERGENCY DISPLAY FUNCTION

This product has the function to store the last two previous emergency faults which can be displayed in the FDP when servicing.

1.6.1 How to display record of an emergency faults

Note: Put the unit into A mode by using the VCR remote controller. (When it is in B mode, the preset remote control codes are not accepted.)

- (1) Press the "N" button of the presetting unit and the two previous emergency faults are shown in the FDP.
- (2) Press the "N" button of the presetting unit again to return to the normal mode.

[Example] E : 01 : 03
 ↑ ↑
 Emergency fault before last
 Emergency fault of the last
 time

[Example] E : — : — : — ← No record of emergency

1.6.3 How to clear emergency record

Press the COUNTER RESET button on the remote controller in the emergency record display mode, and the record of the emergency fault(s) is cleared.

1.6.2 Detail of emergency faults

EMG DATA	Symptom	Detect mode	Resulting mode
E : 01	Loading motor rotates for more than 8 Sec without shift to next mode.	Loading	POWER OFF
E : 02	Loading motor rotates for more than 8 Sec without shift to next mode.	Unloading	POWER OFF
E : 03	TU REEL FG input is absent. (for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 04	DRUM FF input is absent. (for more than 3 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 06	CAPSTAN FG input is absent. (for more than 4 Sec)	REC/PLAY/FF/REW SEARCH FF/SEARCH REW	STOP → POWER OFF
E : 07	No SWD5V/12V	POWER ON	POWER OFF
E : 08	Initialized action of DD (Dynamic Drum) is not complete for less than 4 seconds.	Connect VCR to AC	STOP
E : 09	DD drive motor is not rotate for more than 2.5 seconds.	on TIME SCAN	STOP

Table 1-6-1 EMERGENCY FAULTS

1.7 SYSCON CIRCUIT

1.7.1 Syscon CPU pin function (IC3001) 1/2

PIN NO.	LABEL	IN/OUT	FUNCTION
1	CTL(+)	IN/OUT	CTL(+) SIGNAL
2	SVSS	-	GND
3	CTL(-)	IN/OUT	CTL(-) SIGNAL
4	CTLBIAS	-	CTL BIAS VOLTAGE
5	CTLFB	IN	CTL PULSE FEEDBACK
6	CTLAMPOUT	OUT	CTL PULSE OUTPUT
7	CTLSMTIN	IN	CTL PULSE INPUT
8	CFG	IN	CAPSTAN FG PULSE INPUT
9	SVCC	-	SYSTEM POWER
10	AVCC	-	SYSTEM POWER FOR ANALOG CIRCUIT
11	NORM/MESEC/S	IN	SVHS MODE:H
12	SECAM DET/KILLER OUT	-	NC
13	VIDEO ENV	IN	AUTO TRACKING DETECT/INPUT THE AVERAGE OF PLAYBACK VIDEO SIGNAL
14	START SENSOR	IN	START SENSOR
15	END SENSOR	IN	END SENSOR
16	IND(L)	IN	AUDIO INPUT (LCH) FOR THE FDP AUDIO INDICATOR
17	DD ABS	IN	DYNAMIC DRUM POSITION DETECT
18	SCR ID	IN	SCRAMBLE CONTROL INPUT (SCRAMBLE:H)
19	IND(R)	IN	AUDIO INPUT (RCH) FOR THE FDP AUDIO INDICATOR
20	BS ANT/AFC	IN	TUNING CLOCK
21	LED/RF AGC	IN	NC/CHANGES IN ATS+IC OUTPUT AS CAUSED BY CHANGES IN RECEIVER SENSITIVITY WHEN THE SAME CHANNEL IS RECEIVED MORE THAN ONCE ARE INPUT.
22	A.ENV/ND(L)	IN	AUDIO PB FM ENV.INPUT/NON HiFi MODE:L
23	AVSS	-	GND FOR ANALOG CIRCUIT
24	CTL GAIN	OUT	CONTROL AMP OUT FREQUENCY RESPONSE SWITCHING
25	LSA	IN	MECHANISM MODE DETECT(A)
26	LSB	IN	MECHANISM MODE DETECT(B)
27	LSC	IN	MECHANISM MODE DETECT(C)
28	CAP REV(L)	OUT	CAPSTAN MOTOR REVERSE CONTROL (FWD:H/REV:L)
29	RC	IN	REMOTE CONTROL DATA INPUT
30	R.PAUSE/COMPU IN	IN	REMOTE PAUSE CONTROL / A/V COMPULINK INPUT
31	P50 IN	IN	CONTROL SIGNAL FOR TV LINK
32	LMC3	OUT	LOADING MOTOR DRIVE(3)
33	P50 OUT/COMPU OUT	OUT	CONTROL SIGNAL FOR TV LINK
34	RAE	OUT	RAE TERMINAL FOR PAUSE OUT
35	LMC1	OUT	LOADING MOTOR DRIVE(1)
36	LMC2	OUT	LOADING MOTOR DRIVE(2)
37	P.CTL(H)	OUT	CONTROL SIGNAL FOR SWITCHING POWER SUPPLY
38	SB G(PWM)	OUT	VOLTAGE CONTROL SIGNAL FOR VIDEO FREQUENCY RESPONSE
39	STB/TEST	OUT	STROBE SIGNAL (FOR FDP DRIVER)
40	POWER DET	IN	DETECTION SIGNAL FOR POWER DOWN OF AC POWER SUPPLY
41	REC SAFETY	IN	REC SAFETY SWITCH DETECT (SW ON:L)
42	PROTECT	IN	DETECTION SIGNAL FOR SW POWER SUPPLY
43	VSS	-	GND
44	TRICK(H)	OUT	SPECIAL PLAYBACK:H
45	VCC	-	SYSTEM POWER
46	N.REC(H)	OUT	NORMAL AUDIO REC MODE CONTROL (REC:H)
47	SUB DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR SUB CPU
48	SUB CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR SUB CPU
49	I2C DATA	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR THE ON-SCREEN IC
50	I2C CLK	OUT	SERIAL DATA TRANSFER CLOCK FOR THE ON-SCREEN IC
51	S.DATA TOSYS	IN	SERIAL DATA TRANSFER OUTPUT FROM THE ON-SCREEN IC TO THE FDP DRIVER
52	S.DATA FRSYS	OUT	SERIAL DATA TRANSFER OUTPUT FROM THE FDP DRIVER TO THE ON-SCREEN IC
53	S.CLK	OUT	SERIAL DATA TRANSMISSION CLOCK FROM THE FDP DRIVER TO THE ON-SCREEN IC
54	SP FG	IN	DETECTION SIGNAL FOR SUPPLY REEL ROTATION/TAPE REMAIN
55	TU FG	IN	DETECTION SIGNAL FOR TAKE-UP REEL ROTATION/TAPE REMAIN
56	LOCK(L)	IN	TUNING PLL LOCK DETECT: L

Table 1-7-1 SYSCON CPU pin function(1/2)

1.7.2 Syscon CPU pin function (IC3001) 2/2

PIN NO.	LABEL	IN/OUT	FUNCTION
57	TU CE	OUT	CHIP ENABLE OF THE TUNER UNIT
58	JUST CLK/CCIR(H)	OUT	NC/EXCEPT FOR NTSC:L
59	DDFG	IN	DYNAMIC DRUM FG INPUT
60	TU CLK	OUT	CLOCK FOR DATA TRANSFER TO THE TUNER UNIT
61	TU DATA	OUT	TUNING DATA
62	FWE	-	NC
63	NMI(L)/OPERATE SW	IN	DETECTION SIGNAL DURING PRESSING THE SWITCHES ON THE MEMBRANE DOOR (DETECTED: L, THE SIGNAL FROM IR RECEIVER CANNOT BE RECEIVED)
64	X2	-	TIMER CLOCK (32.768KHz)
65	X1	-	TIMER CLOCK (32.768KHz)
66	RES(L)	-	RESET TERMINAL (RESET ON:L)
67	OSC1(IN)	-	MAIN SYSTEM CLOCK(10MHz)
68	VSS	-	GND
69	OSC2(OUT)	-	MAIN SYSTEM CLOCK(10MHz)
70	VCC	-	SYSTEM POWER
71	MODE	-	NC
72	TU A MUTE(H)	OUT	TUNER AUDIO MUTE CONTROL (MUTE:H)
73	TU V MUTE(H)	OUT	TUNER VIDEO CONTROL (MUTE:H)
74	A.MUTE(H)	OUT	AUDIO MUTE CONTROL (MUTE:H)
75	I2C CLK2	OUT	SERIAL DATA TRANSFER CLOCK FOR MEMORY IC
76	I2C DATA2	IN/OUT	SERIAL DATA TRANSFER OUTPUT FOR MEMORY IC
77	DDCFWD	OUT	DYNAMIC DRUM CONTROL(FORWARD)
78	DDCREV	OUT	DYNAMIC DRUM CONTROL(REVERSE)
79	DDSPDCTL	OUT	DYNAMIC DRUM SPEED CONTROL
80	V.P.CTL	OUT	V.PULSE CONTROL, V COMPENSATION DURING SPECIAL PLAYBACK
81	PAL EP CTL/R-Y REV	OUT	D.FF TIMING CONTROL SIGNAL FOR SPECIAL PLAYBACK
82	VCC	-	SYSTEM POWER
83	SLOW P	OUT	MEMORY TIMING CONTROL IN THE SLOW MODE
84	VSS	-	GND
85	SP SHORT(H)	-	NC
86	LP SHORT(H)	-	NC
87	FLY ON(H)	OUT	FLYING ERASE ON:H
88	A.REC ST(H)	OUT	HIFI AUDIO SOUND RECORDING START
89	SECAM(H)	-	NC
90	HEAD SEL	OUT	HEAD SELECT(LP HEAD:H, SP HEAD:L)
91	OSD CS	OUT	CHIP SELECT FOR THE ON-SCREEN IC
92	SYNC DET(H)	IN	DETECTION OF VIDEO SYNC SIGNAL (DETECTED:H)
93	P.MUTE(L)	OUT	PICTURE MUTE CONTROL (MUTE:L)
94	JSB/STLB	IN	INPUT FOR THE JOG SHUTTLE
95	SHTL(L)/JOGA	IN	INPUT FOR THE JOG SHUTTLE
96	JOGB	IN	INPUT FOR THE JOG SHUTTLE
97	JSA/STLA	IN	INPUT FOR THE JOG SHUTTLE
98	C.SYNC	IN	COMPOSITE SYNC
99	A.FF	OUT	AUDIO FF OUTPUT
100	V.FF	OUT	ROTATION DETECTION SIGNAL FOR DRUM MOTOR/TIMING CONTROL SIGNAL FOR REC
101	CAPPWM	OUT	CAPSTAN MOTOR CONTROL
102	DRUMPWM	OUT	DRUM MOTOR CONTROL
103	SUB RESET/V.UP(H)	OUT	SUB CPU RESET(RESET:L)/NC
104	S.CASS(H)	IN	DETECTION SIGNAL FOR SVHS CASSETTE (SVHS:H)
105	PERI 1S	IN	INPUT FOR THE TERMINAL SLIDE SW POSI IN THE SAT MODE
106	LOCK(L)/P.SAVE(L)	OUT	NC/POWER SAVE:L
107	DPG	IN	DRUM PICKUP PULSE INPUT (SWITCHING PULSE)
108	DFG	IN	DRUM FG PULSE INPUT
109	VCC	-	SYSTEM POWER
110	V.PULSE	OUT	V.PULSE ADDITION TIMING CONTROL
111	VSS	-	GND
112	CTLREF	-	CTL REFERENCE VOLTAGE

Table 1-7-2 SYSCON CPU pin function(2/2)

SECTION 2

MECHANISM ADJUSTMENT

2.1 BEFORE STARTING REPAIR AND ADJUSTMENT

2.1.1 Precautions

- (1) Unplug the power cable of the main unit before using your soldering iron.
- (2) Take care not to cause any damage to the conductor wires when plugging and unplugging the connectors.
- (3) Do not randomly handle the parts without identifying where the trouble is.
- (4) Exercise enough care not to damage the lugs, etc. during the repair work.
- (5) When installing the front panel assembly, be sure to hook the lug on the back side of the cassette door to the door opener of the cassette holder. If this operation is neglected it will not be possible to remove the cassette when ejecting because the housing door cannot be opened.

2.1.2 Checking for Proper Mechanical Operations

Enter the mechanism service mode when you want to operate the mechanism when no cassette is loaded. (See 1.5 MECHANISM SERVICE MODE.)

2.1.3 Manually Removing the Cassette Tape

1. In case of electrical failures

If you cannot remove the cassette tape which is loaded because of any electrical failure, manually remove it by taking the following steps.

- (1) Unplug the power cable and remove the top cover, bracket and front panel assembly. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
- (2) Unload the cassette by manually turning the loading motor of the mechanism assembly toward the front. In doing so, hold the tape by the hand to keep the slack away from any grease. (See Fig.2-1-1.)
- (3) Bring the pole base assembly (supply or take-up side) to a pause when it reaches the position where it is hidden behind the cassette tape.
- (4) Move the top guide toward the drum while holding down the lug **(A)** of the bracket retaining the top guide. Likewise hold part **(B)** down and remove the top guide. Section **(C)** of the top guide is then brought under the cassette lid. Then remove the top guide by pressing the whole cassette tape down. (See Fig.2-1-2.)
- (5) Remove the cassette tape by holding both the slackened tape and the cassette lid.
- (6) Take up the slack of the tape into the cassette. This completes removal of the cassette tape.

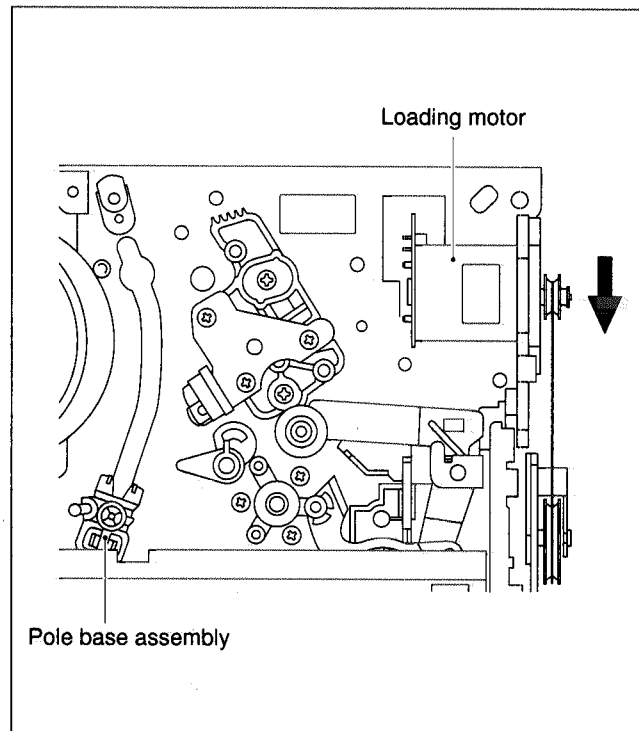


Fig. 2-1-1

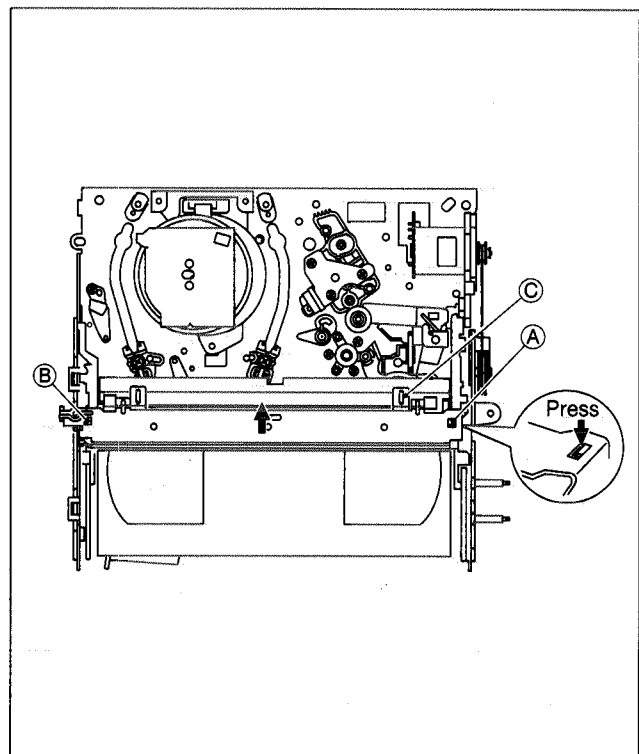


Fig. 2-1-2

2. In case of mechanical failure

If you cannot remove the cassette tape which is loaded because of any mechanical failure, manually remove it by taking the following steps.

- (1) Unplug the power cable and remove the top cover, front panel assembly and others so that the mechanism assembly is visible. (See 1.3 DISASSEMBLY/ASSEMBLY METHOD.)
- (2) While keeping the tension arm assembly of the mechanism assembly free from tension, pull the tape on the pole base assembly (supply or take-up side) out of the guide roller. (See Fig.2-1-3.)
- (3) Take the spring of the pinch roller arm assembly off the hook of the press lever assembly, and detach it from the tape. (See Fig.2-1-4.)
- (4) In the same way as in the electrical failure instructions in 2.1.3 (4), remove the top guide.
- (5) Raise the cassette tape cover. By keeping it in that position, draw out the cassette tape case from the cassette holder and take out the tape.
- (6) By hanging the pinch roller arm assembly spring back on the hook, take up the slack of the tape into the cassette.

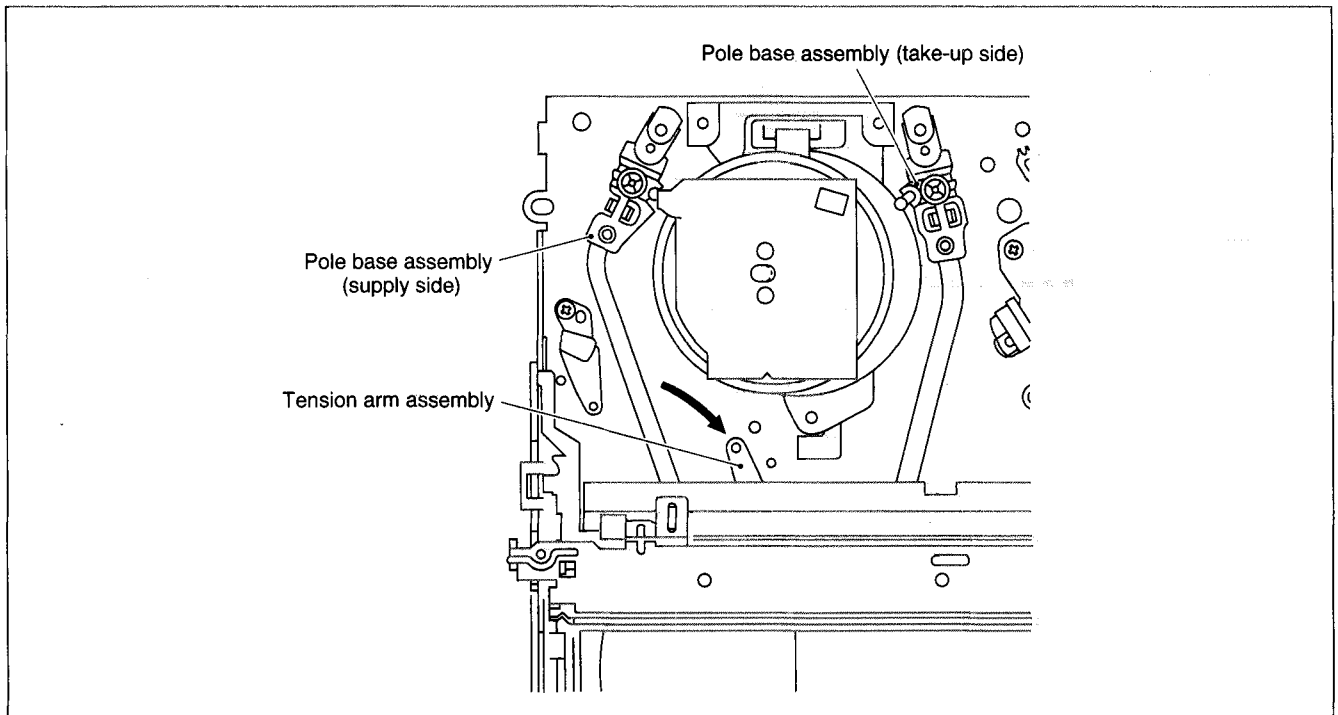


Fig. 2-1-3

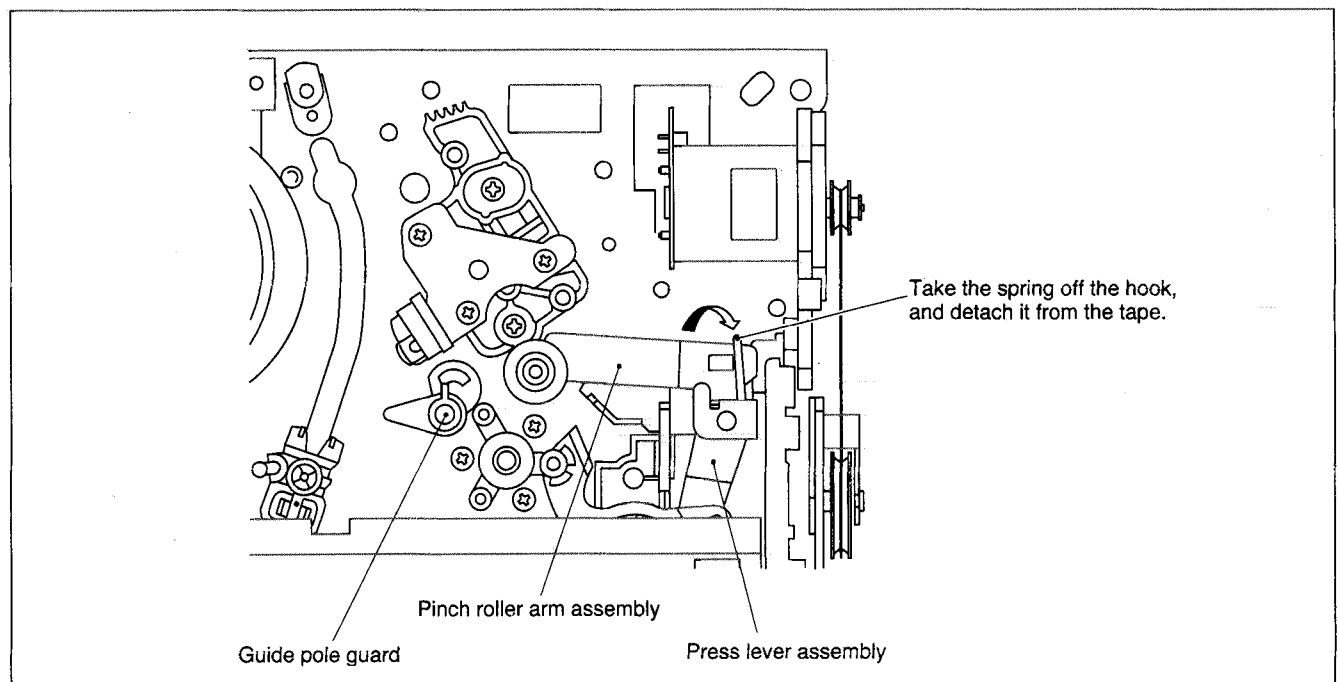


Fig. 2-1-4

2.1.4 Jigs and Tools Required for Adjustment

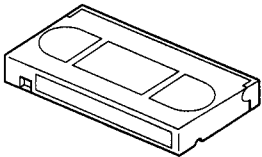
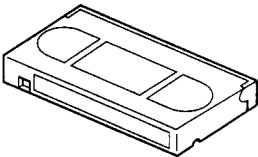
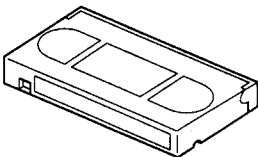
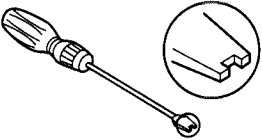
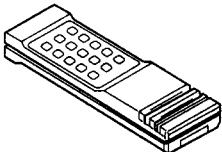
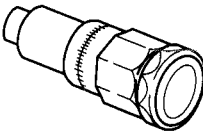
Alignment tape (SP) MHPE	Alignment tape (LP) MHPE-L	Back tension cassette gauge PUJ48076-2	A/C head position bit PTU94010
			
Roller driver PTU94002	Presetting unit PTU94008	Torque gauge PUJ48075-2	
			

Table 2-1-1 Jigs and tools required for adjustment

2.1.5 Maintenance and Inspection

1. Location of major mechanical parts

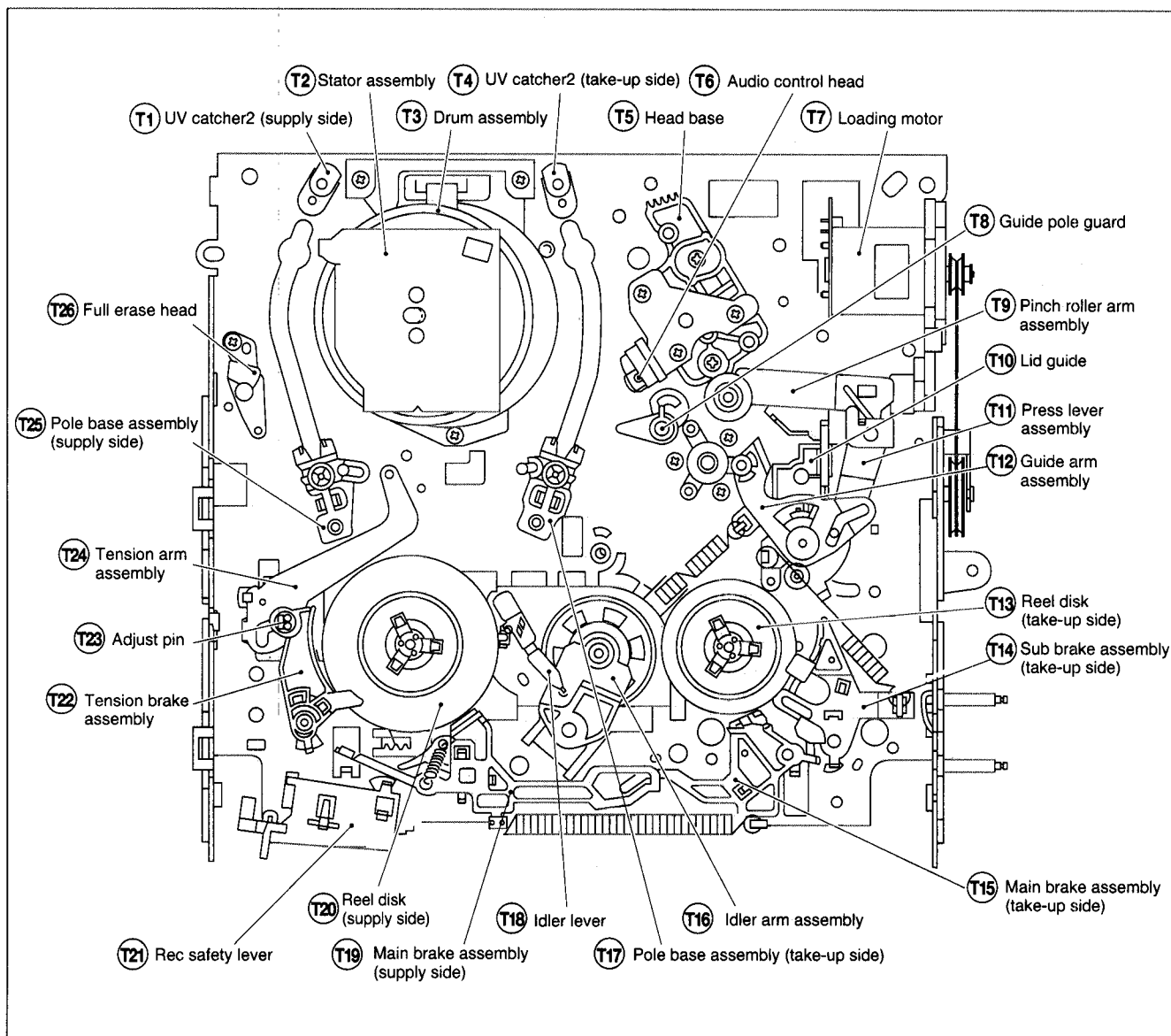


Fig. 2-1-5 Mechanism assembly top side

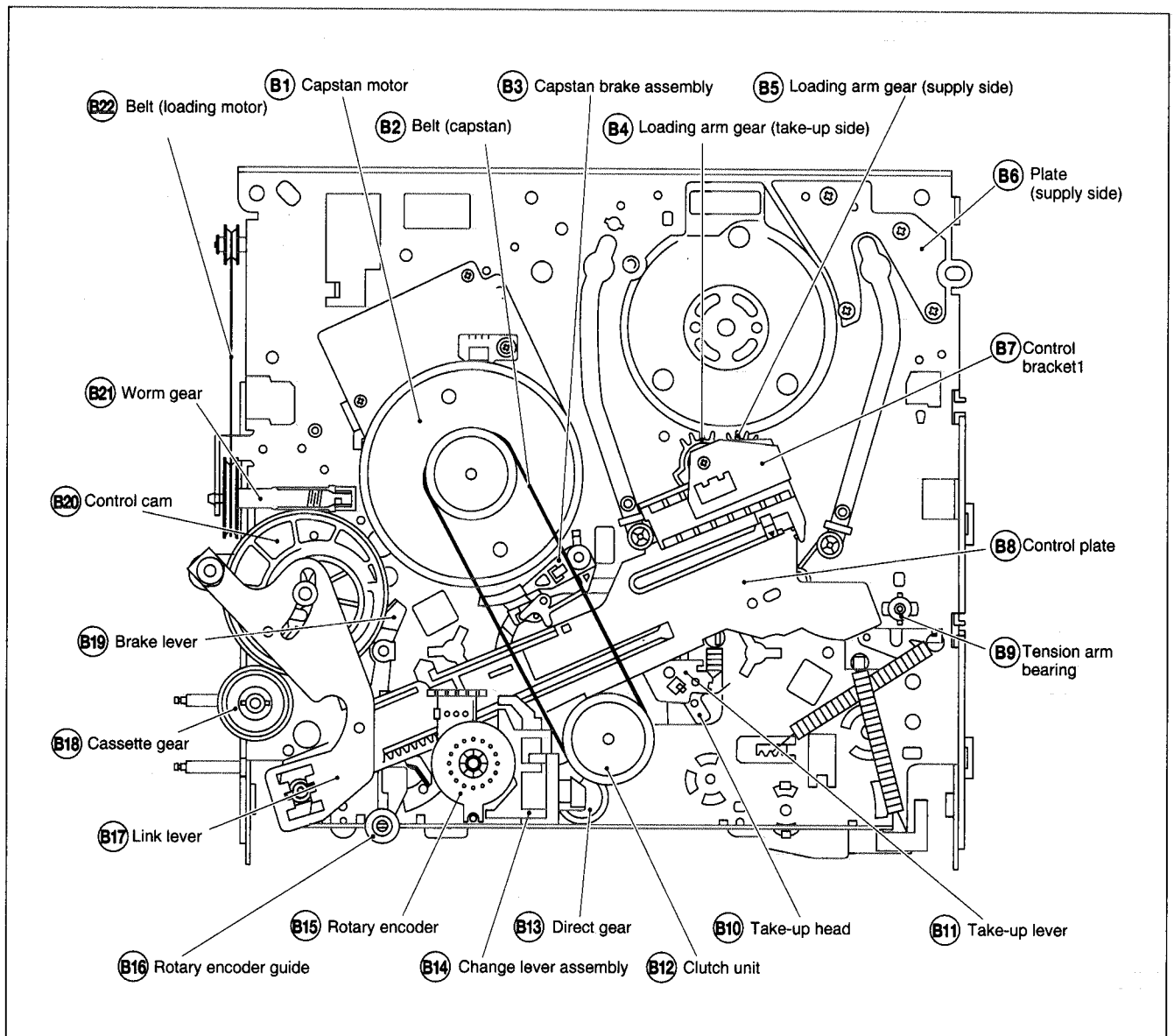


Fig. 2-1-6 Mechanism assembly bottom side

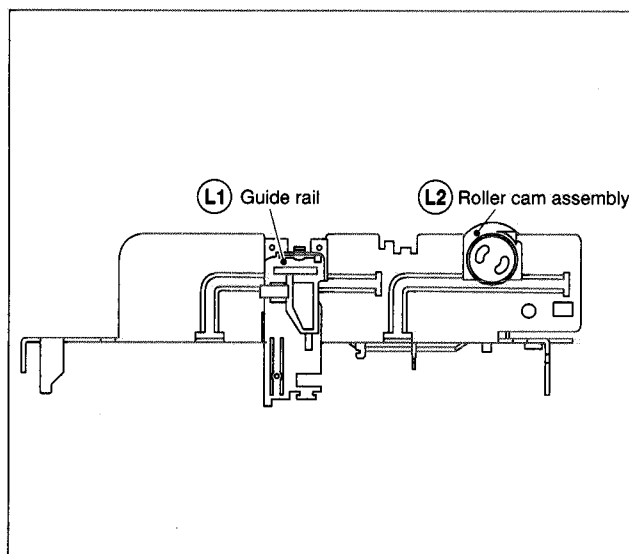


Fig. 2-1-7 Mechanism assembly left side

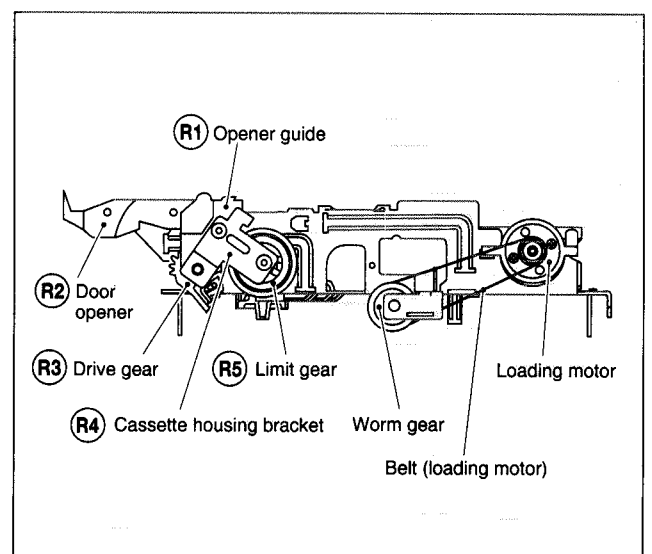


Fig. 2-1-8 Mechanism assembly right side

Note: This table shows the order in which parts are removed for replacement. To replace parts, remove them in the order of 1 to 18 as shown in the table. To install them, reverse the removal sequence.
The circled numbers (symbols and numbers) preceding the individual part names represent the numbers in the "Location of major mechanical parts" table. Also, the "T", "B", and "T/B" on the right of each part name shows that the particular part is removed from the front, from the back, and from both sides of the mechanism, respectively.

Symbols and numbers	Symbols and numbers		Front (T)/Back (B) of mechanism	Number of removal steps	(L1)	(L2)	(R4)	(R1)	—	—	(R3)	—	(T9)	(T12)	(T11)	(T13)	(B19)	(B12)	(B14)	(B13)	(B17)	(B21)	(B7)	(B8)	(B5)	(B4)	(B11)	(T14)	(T15)	(T13)	(T22)	(T24)	(T18)	(B19)	
	Removal parts	(Reference items) Replacement parts			Guide rail	Roller cam assembly	Cassette housing bracket	Opener guide	Relay gear	Cassette holder assembly	Drive gear	Drive arm	Pinch roller arm assembly	Guide arm assembly	Press lever assembly	UV catcher2	Rotary encoder	Clutch unit	Change lever assembly	Direct gear	Link lever	Worm gear	Control bracket1	Control plate	Loading arm gear (supply side)	Loading arm gear (take-up side)	Take-up lever	Sub brake assembly (take-up side)	Main brake assembly (take-up side)	Reel disk (take-up side)	Tension brake assembly	Tension arm assembly	Idler lever	Brake lever	
(L1)	2.2.3	Guide rail	T	1																															
(L2)	2.2.3	Roller cam assembly	T	1																															
(R4)	2.2.3	Cassette housing bracket	T	1																															
(R1)	2.2.3	Opener guide	T	2			1																												
(R2)	2.2.3	Door opener	T	3			1	2																											
—	2.2.3	Relay gear	T	3			1	2																											
(R5)	2.2.3	Limit gear	T	3			1	2																											
—	2.2.3	Cassette holder assembly	T	6	1	2	3	4	5																										
(R3)	2.2.3	Drive gear	T	4			1	2	3																										
—	2.2.3	Drive arm	T	8	1	2	3	4	5	6	7																								
(T9)	2.2.4	Pinch roller arm assembly	T	1																															
(T12)	2.2.5	Guide arm assembly	T	1																															
(T11)	2.2.5	Press lever assembly	T	3									1	2																					
(T6)	2.2.6	Audio control head	T	1																															
(T7)	2.2.7	Loading motor	T	1																															
(B1)	2.2.8	Capstan motor	T/B	1																															
(T13)	2.2.9	UV catcher2	T	1																															
(T17)	2.2.9	Pole base assembly (take-up side)	T/B	2												1																			
(T25)	2.2.9	Pole base assembly (supply side)	T/B	2												1																			
(B19)	2.2.10	Rotary encoder	B	1																															
(B12)	2.2.11	Clutch unit	B	1																															
(B14)	2.2.12	Change lever assembly	B	3													1	2																	
(B13)	2.2.12	Direct gear	B	4													1	2	3																
—	2.2.12	Clutch gear1	B	5													1	2	3	4															
(B17)	2.2.13	Link lever	B	1																															
(B18)	2.2.14	Cassette gear	B	2																1															
(B20)	2.2.14	Control cam	B	2																1															
(B21)	2.2.14	Worm gear	B	1																															
(T10)	—	Lid guide	T/B	5									1	2	3							4													
(B7)	2.2.15	Control bracket1	B	1																															
(B8)	2.2.15	Control plate	B	6													1	2	3			4		5											
(B5)	2.2.16	Loading arm gear (supply side)	B	7													1	2	3			4		5	6										
(B4)	2.2.16	Loading arm gear (take-up side)	B	8													1	2	3			4		5	6	7									
—	2.2.16	Loading arm gear shaft	B	9													1	2	3			4		5	6	7	8								
(B11)	2.2.17	Take-up lever	T/B	7													1	2	3			4		5	6										
(B10)	2.2.17	Take-up head	T/B	8													1	2	3			4		5	6			7							
—	2.2.17	Control plate guide	T/B	8													1	2	3			4		5	6			7							
(B3)	2.2.18	Capstan brake assembly	T/B	7													1	2	3			4		5	6										
(T14)	2.2.19	Sub brake assembly(take-up side)	T/B	15	1	2	3	4	5	6	7	8					9	10	11			12		13	14										
(T15)	2.2.20	Main brake assembly(take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14			15							
(T19)	2.2.20	Main brake assembly(supply side)	T/B	9	1	2	3	4	5	6	7	8																							
(T13)	2.2.20	Reel disk (take-up side)	T/B	16	1	2	3	4	5	6	7	8					9	10	11			12		13	14			15							
(T22)	2.2.21	Tension brake assembly	T/B	9	1	2	3	4	5	6	7	8																							
(T20)	2.2.21	Reel disk (supply side)	T/B	10	1	2	3	4	5	6	7	8																				9			
(T24)	2.2.21	Tension arm assembly	T/B	10	1	2	3	4	5	6	7	8																				9			
(B9)	2.2.21	Tension arm bearing	T/B	10	1	2	3	4	5	6	7	8																				9			
(T18)	2.2.22	Idler lever	T/B	17	1	2	3	4	5	6	7	8					9	10	11			12		13	14						15	16			
(T16)	2.2.22	Idler arm assembly	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14						15	16	17		
(B19)	—	Brake lever	T/B	18	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17				
(B18)	—	Rotary encoder guide	T/B	19	1	2	3	4	5	6	7	8					9	10	11			12		13	14				15	16	17			18	

2. Cleaning

Regular cleaning of the transport system parts is desirable but practically impossible. So make it a rule to carry out cleaning of the tape transport system whenever the machine is serviced.

When the video head, tape guide and/or brush get soiled, the playback picture may appear inferior or at worst disappear, resulting in possible tape damage.

- (1) When cleaning the upper drum (especially the video head), soak a piece of closely woven cloth or Kimu-wipe with alcohol and while holding the cloth onto the upper drum by the fingers, turn the upper drum counterclockwise.

Note: *Absolutely avoid sweeping the upper drum vertically as this will cause damage to the video head.*

- (2) To clean the parts of the tape transport system other than the upper drum, use a piece of closely woven cloth or a cotton swab soaked with alcohol.
- (3) After cleaning, make sure that the cleaned parts are completely dry before using the video tape.

3. Lubrication

With no need for periodical lubrication, you have only to lubricate new parts after replacement. If any oil or grease on contact parts is soiled, wipe it off and newly lubricate the parts.

- (1) See the mechanism assembly and disassembly diagrams (M4) for the lubricating or greasing spots. See Table 2-1-2 for the types of oil or grease to be used.

Type	Name	Serial No.	Symbols on the dis-assembly diagrams
Grease	Maltemp SH-P	KYODO-SH-P	AA
Oil	Cosmohydro HV56	COSMO-HV56	BB

Table 2-1-2 Grease and oil used for the unit

4. Suggested servicing schedule for main components

The following table indicates the suggested period for such service measures as cleaning, lubrication and replacement. In practice, the indicated periods will vary widely according to environmental and usage conditions. However, the indicated components should be inspected when a set is brought for service and the maintenance work performed if necessary. Also note that rubber parts may deform in time, even if the set is not used.

System	Parts Name	Operation Hours	
		~1000H	~2000H
Tape transport	Upper drum assembly	★○	○
	A/C head	★○	★○
	Lower drum assembly	★	★○
	Pinch roller arm assembly	★	★
	Full erase head	★	★
	Tension arm assembly	★	★
	Capstan motor (Shaft)	★	★
	Guide arm assembly	★	★
Drive	Capstan motor		○
	Capstan brake assembly		○
	Main brake assembly		○
	Belt (Capstan)	○	○
	Belt (Loading motor)		○
	Loading motor		○
	Clutch unit		○
	Worm gear		○
	Control plate		○
Other	Brush	★○	★○
	Tension brake assembly	○	○
	Rotary encoder		○

★: Cleaning

○: Inspection or Replacement if necessary

Table 2-1-3

2.2 REPLACEMENT OF MAJOR PARTS

2.2.1 Before Starting Disassembling (Phase matching between mechanical parts)

The mechanism of this unit is closely linked with the rotary encoder and system controller circuits.

Since the system controller detects the status of mechanical operation in response to phases of the rotary encoder (internal switch positions), the mechanism may not operate properly unless such parts as the rotary encoder, control plate, loading arm gear, control cam, cassette gear, limit gear, relay gear and drive gear are installed in their correct positions.

Especially, this model is not provided with any cassette housing assembly, so that cassette loading and unloading must be accomplished by operation of the cassette holder assembly. The latter is in turn driven by such parts as the drive gear, relay gear and limit gear. Exercise enough care, therefore, to have the phases of all this gear matching one another.

(For information on phase matching of the mechanism, see the instructions on how to install individual parts.)

This unit is provided with a mechanism assembly mode. It is therefore necessary to enter this mode for assembling and disassembling procedures.

This mode is usually not in use, manually set it when it is required.

2.2.2 How to Set the Mechanism Assembling Mode

Remove the mechanism assembly and place it bottom side up. (See SECTION 1 DISASSEMBLY.) Turn the worm gear toward the front so that the guide hole of the control cam is brought into alignment with the hole at the mechanism assembly chassis. This position renders the mechanism assembling mode operational. Make sure that the control plate is located in alignment with the mark E. (See Fig.2-2-1.)

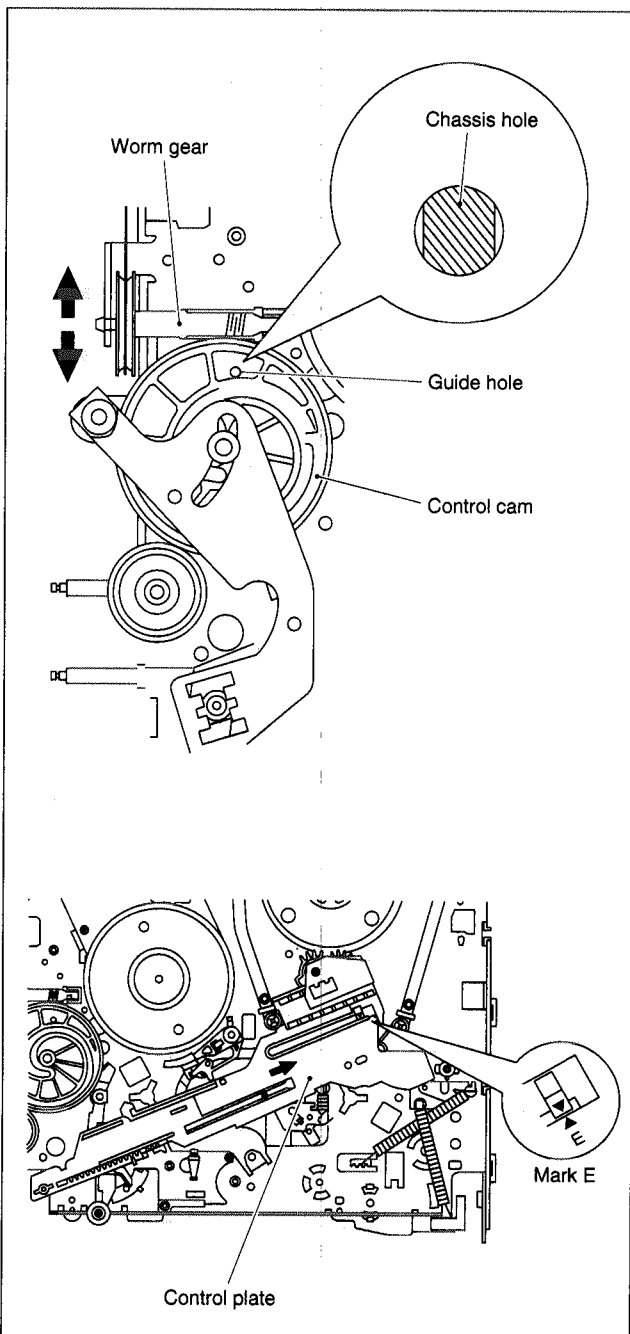


Fig. 2-2-1

2.2.3 Cassette Holder Assembly

1. How to remove

- (1) Remove the guide rail and roller cam assembly. (See Fig.2-2-2.)
(3 lugs on the guide rail and one lug on the roller cam assembly)

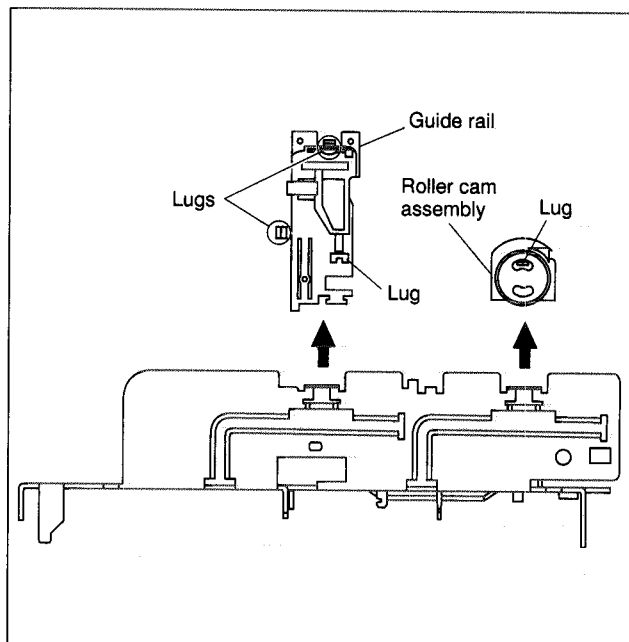


Fig. 2-2-2

- (2) Remove the two slit washers and remove the cassette housing bracket. (See Fig.2-2-3.)
- (3) Remove the opener guide, spring(A), door opener, relay gear and limit gear. (See Fig.2-2-3.)

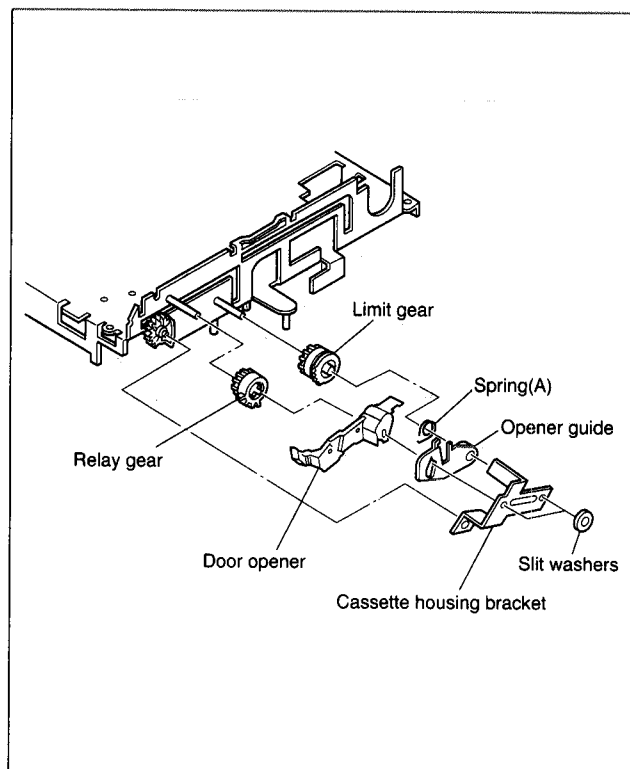


Fig. 2-2-3

- (4) While swinging the lock levers (R) and (L) of the cassette holder assembly toward the front, slide the cassette holder assembly until its legs come to where the guide rail and the roller cam assembly have been removed (so that the drive arm is upright). (See Fig.2-2-4.)

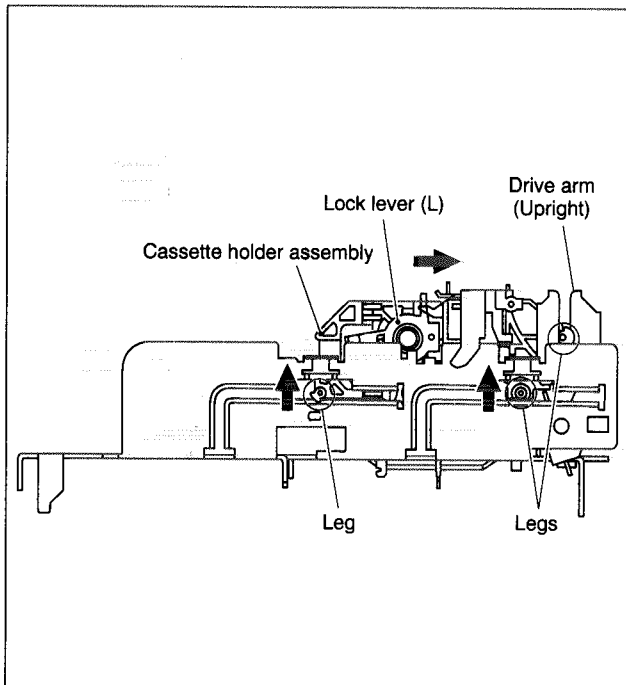


Fig. 2-2-4

- (5) While holding the left side of the cassette holder, lift the cassette holder assembly so that the three legs on the left side are all released. Then pull the legs (A) and (B) on the right side out of the rail and also pull up the leg (C). (See Fig.2-2-5 and Fig.2-2-6.)

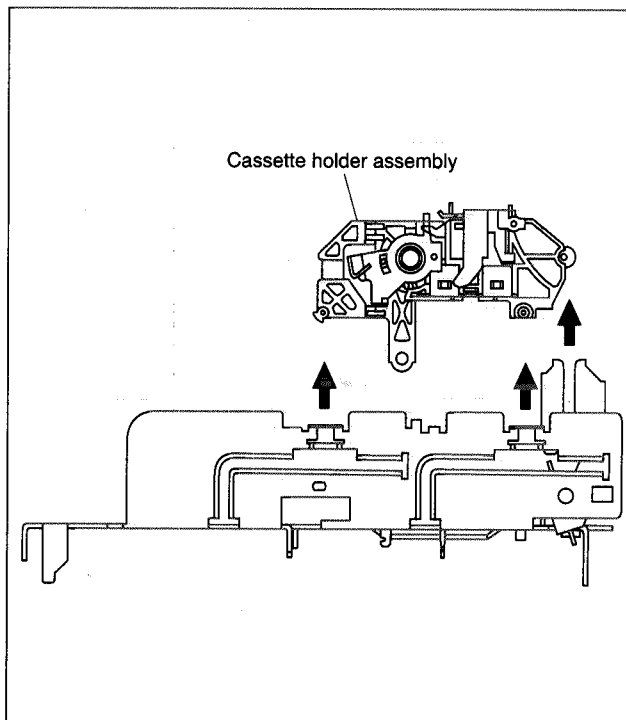


Fig. 2-2-5

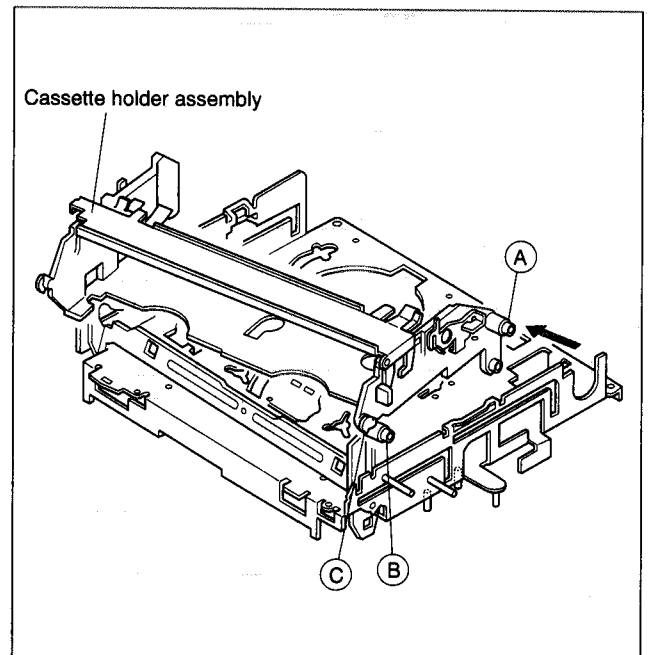


Fig. 2-2-6

- (6) Draw out the drive gear, and remove the drive arm.

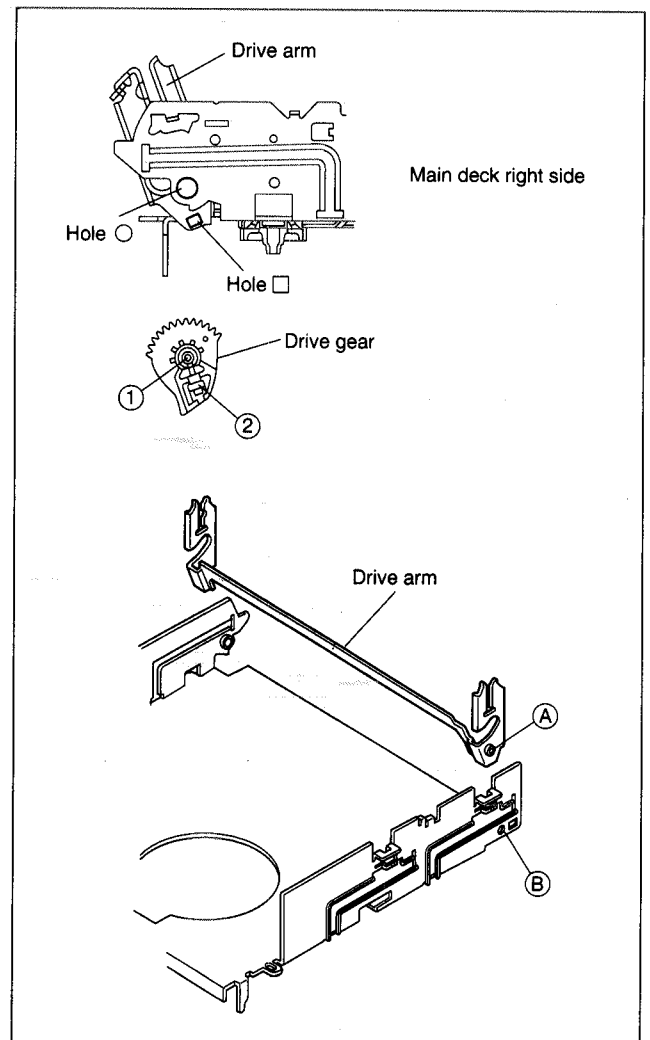


Fig. 2-2-7

2. How to install (Phase matching)

- (1) Insert the section ① of the drive arm into the section ② of the main deck.
- (2) Insert the section ① of the drive gear into the round hole, and the section ② into the square hole on the drive arm. (See Fig.2-2-7.)
- (3) Hold the drive arm upright and fit the leg ③ on the right side of the cassette holder assembly into the groove. (See Fig.2-2-8.)
- (4) While swinging the lock lever (R) of the cassette holder assembly toward the front, put the legs ④ and ⑤ into the rail. (See Fig.2-2-8.)
- (5) Drop the three legs on the left side of the cassette holder assembly into the groove at one time. (See Fig.2-2-9.)
- (6) Slide the whole cassette holder assembly toward the front to bring it to the eject end position.
- (7) Install the limit gear so that the notch on the outer circumference of the limit gear is brought into alignment with the guide hole on the main deck. (See Fig.2-2-10.)
- (8) Install so that the notch on the periphery of the relay gear is aligned with the notch of the main deck and that hole A of the relay gear is aligned with the hole A of the limit gear and that hole B of the relay gear is aligned with the hole B of the drive gear. (See Fig.2-2-10.)
- (9) Install the door opener, opener guide, spring(A) and cassette housing bracket and fasten the two slit washers.

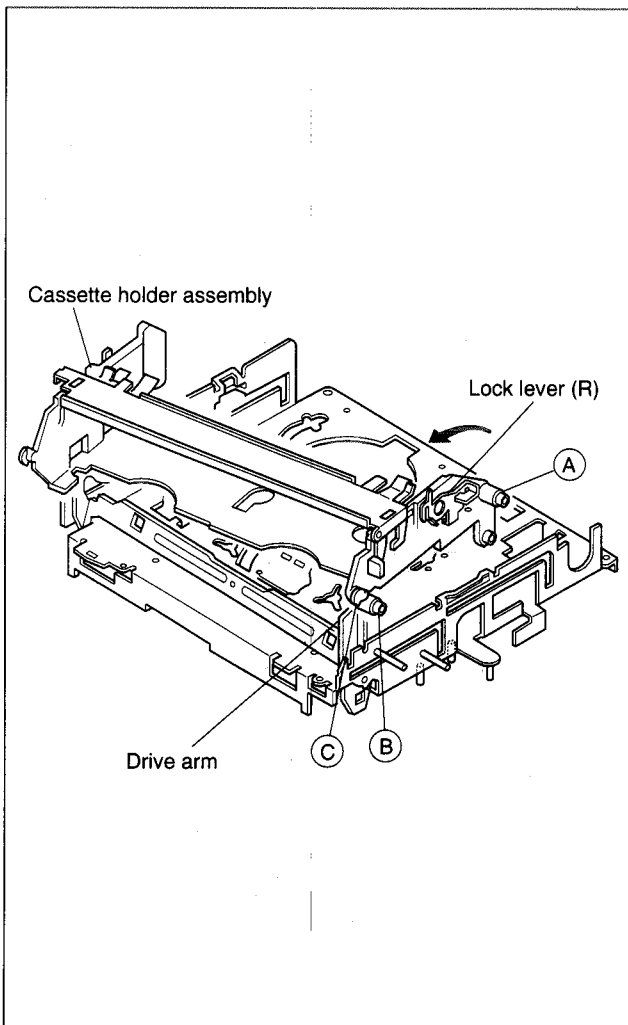


Fig. 2-2-8

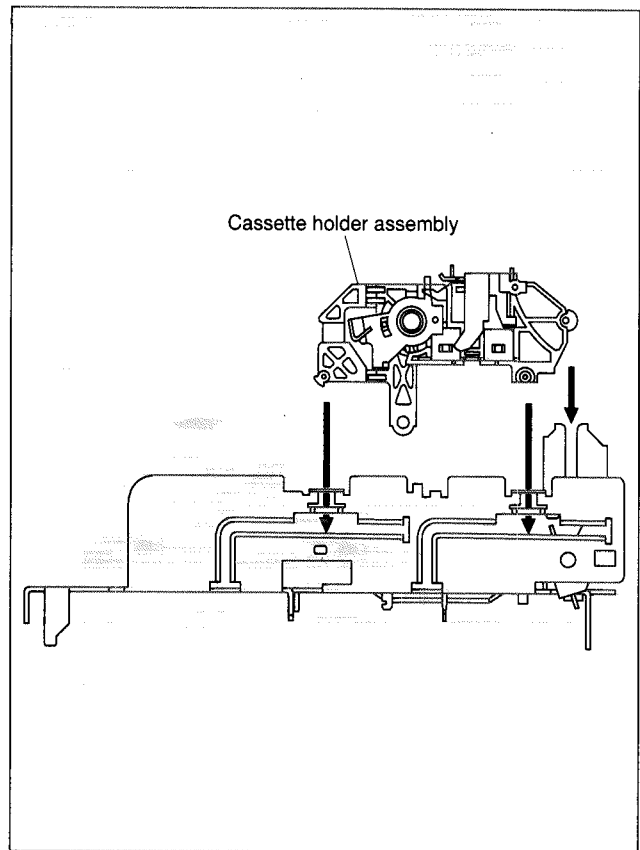


Fig. 2-2-9

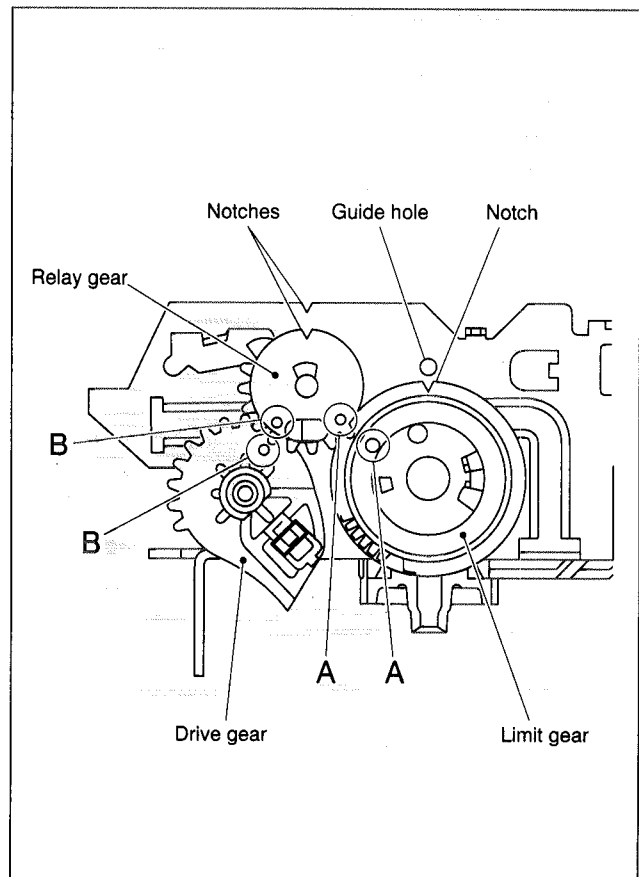


Fig. 2-2-10

2.2.4 Pinch Roller Arm Assembly

1. How to remove

- (1) Remove the spring from the hook of the press lever assembly.
- (2) Remove the slit washer and remove the pinch roller seat 2. (See Fig.2-2-11.)
- (3) Remove the pinch roller arm assembly by pulling it up.

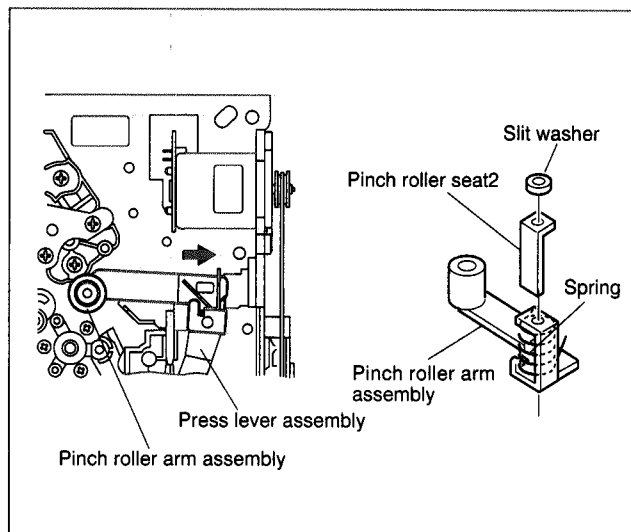


Fig. 2-2-11

2.2.5 Guide Arm Assembly and Press Lever Assembly

1. How to remove

- (1) Remove the spring and expand the lug of the lid guide in the arrow-indicated direction. Then remove the guide arm assembly by pulling it up.
- (2) Remove the press lever assembly by pulling it up. (See Fig.2-2-12.)

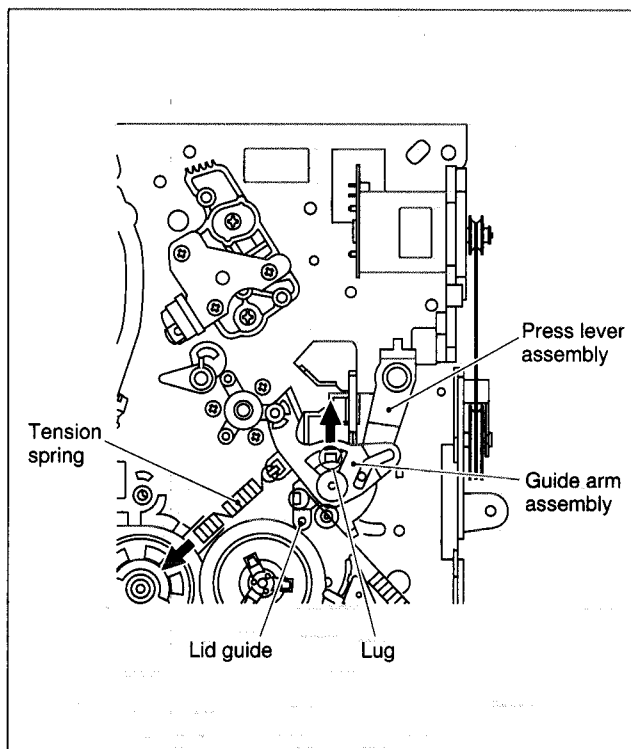


Fig. 2-2-12

2.2.6 Audio Control Head

1. How to remove

- (1) Remove the two screws (A) and remove the audio control head together with the head base.

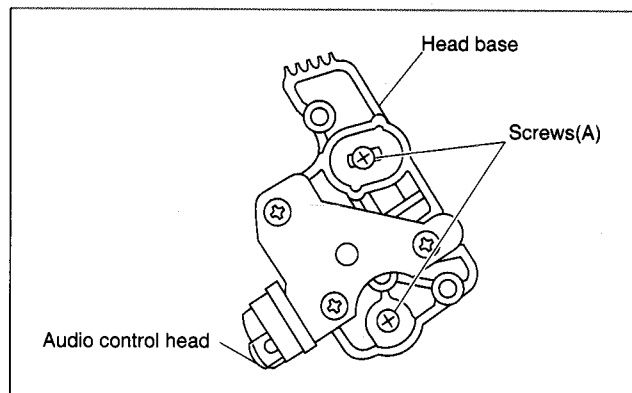


Fig. 2-2-13

- (2) When replacing only the audio control head, remove the three screws (B) while controlling the compression spring.

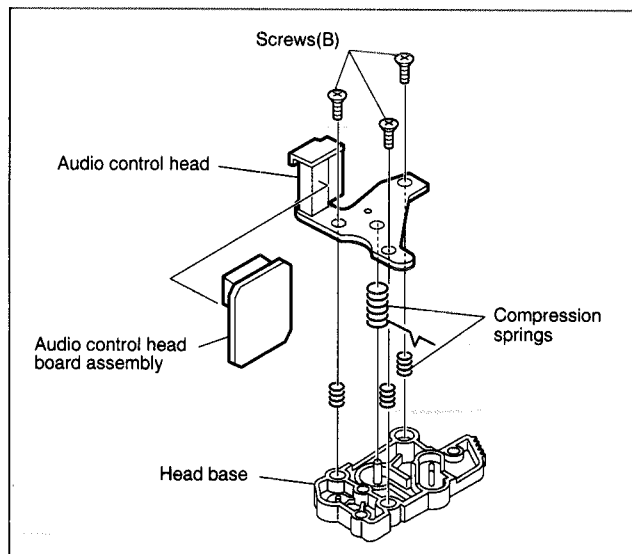


Fig. 2-2-14

2. How to install

- (1) To make the post-installation adjustment easier, set the temporary level as indicated in Fig.2-2-15. Also make sure that the screw center is brought into alignment with the center position of the slot.

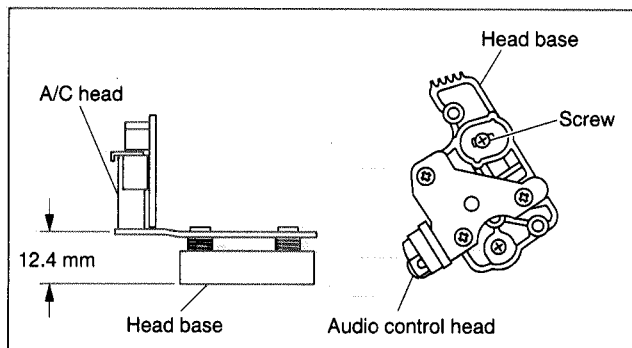


Fig. 2-2-15

2.2.7 Loading Motor

1. How to remove

- (1) Remove the belt wound around the worm gear.
- (2) Open the two lugs of the motor guide and remove the loading motor, loading motor board assembly and motor guide altogether by pulling them up.
- (3) When replacing the loading motor board assembly, take care with the orientation of the loading motor. (Install so that the loading motor label faces upward.)
- (4) When the motor pulley has been replaced, choose the fitting dimension as indicated in Fig.2-2-16.

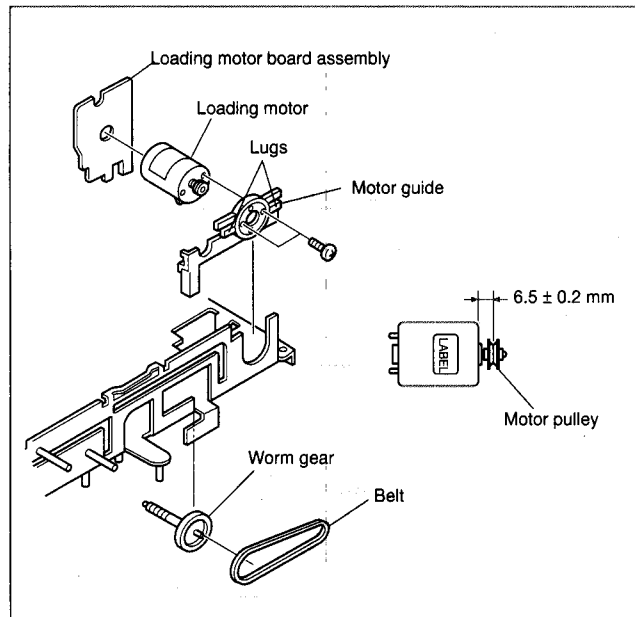


Fig. 2-2-16

2.2.8 Capstan Motor

1. How to remove

- (1) Remove the belt (capstan) on the mechanism assembly back side.
- (2) Remove the three screws (A) and remove the capstan motor.

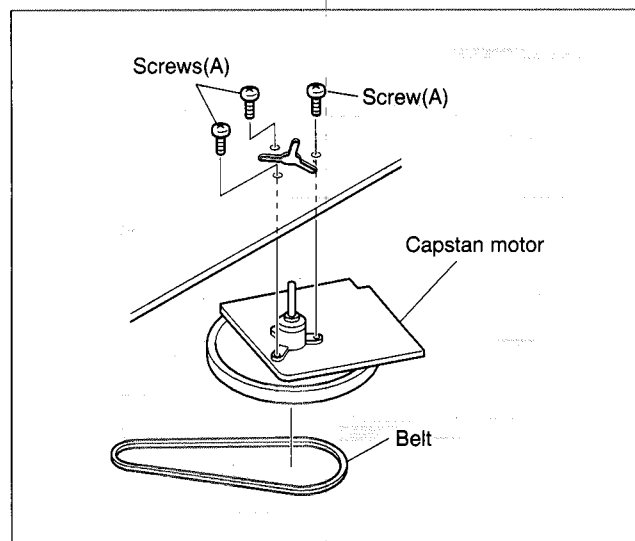


Fig. 2-2-17

2. How to install (Centering the mounting position)

When the capstan motor has once been removed and then reinstalled out of the initial correct position in the rotational direction, the capstan motor current may be unstable during operation in high or low temperatures. This may result in greater Wow & Flutter and occasionally in power break-down because of current over - load. Install the capstan motor while following the procedure given below.

(The capstan motor is centrally located when the unit is shipped from the factory.)

- (1) Provisionally tighten the three screws (A) securing the capstan motor.
- (2) Install the mechanism assembly to which the capstan motor is provisionally fastened on the bottom chassis which incorporates the Main board assembly. (No need to tighten the screws for mounting the mechanism.) Make sure that all the connectors for the mechanism assembly and the Main board assembly are correctly installed as indicated in Fig. 2-2-18.

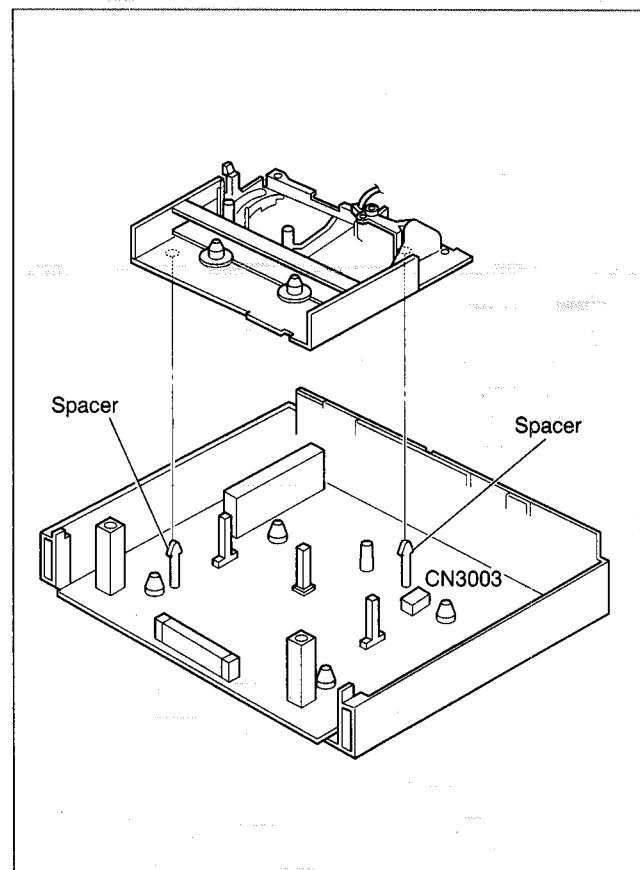


Fig. 2-2-18

- (3) Making sure that the connector CN3003 of the capstan motor is correctly mounted, and securely tighten the three screws (A).

Note: When the capstan motor has been replaced with a new one, perform recording in the LP mode for at least 2 minutes at normal temperatures immediately before starting the FF/REW or SEARCH operations (Aging).

2.2.9 Pole Base Assembly (supply or take-up side)

1. How to remove

- (1) Remove the UV catcher 2 on the removal side by loosening the screw (A).
- (2) Remove the pole base assembly on the supply side from the mechanism assembly by loosening the screw (B) on the mechanism assembly back side and sliding the pole base assembly toward the UV catcher 2.
- (3) As for the pole base assembly on the take-up side, turn the pulley of the loading motor to lower the cassette holder because the screw (B) is hidden under the control plate. (See the "Procedures for Lowering the Cassette holder assembly" of 1.3 DISASSEMBLY/ASSEMBLY METHOD.) Further turn the motor pulley to move the cassette holder until the screw (B) is no longer under the control plate (in the half-loading position). Then remove it as done for the supply side by removing the screw (B).

NOTE: After reinstalling the Pole base assembly and the UV catcher2, be sure to perform compatibility adjustment.

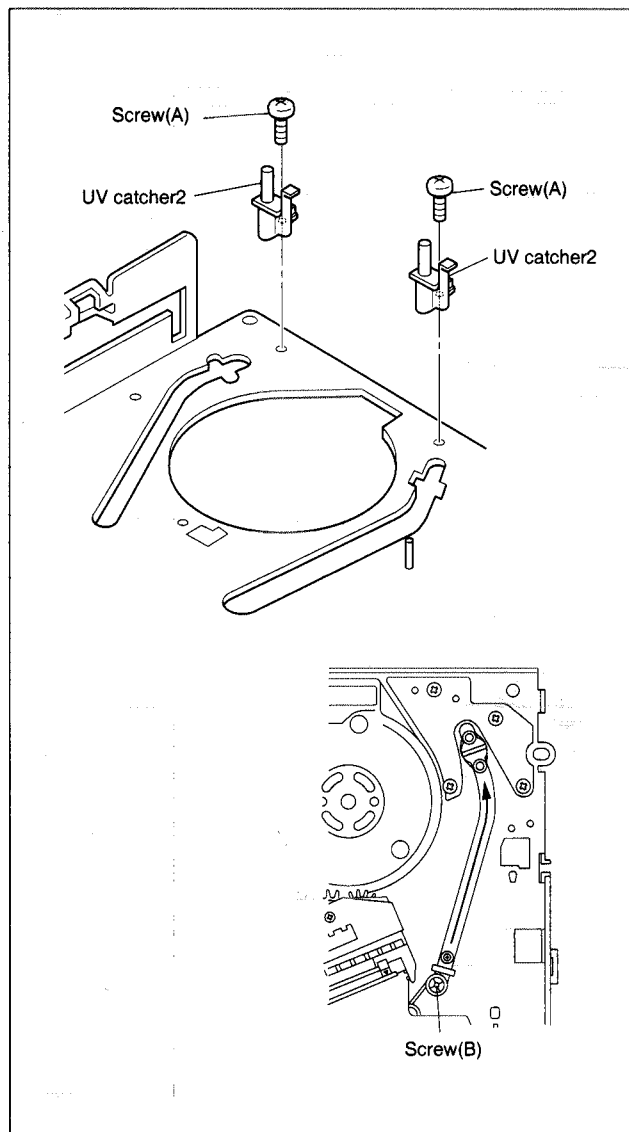


Fig. 2-2-19

2.2.10 Rotary Encoder

1. How to remove

- (1) Remove the screw (A) and remove the rotary encoder by pulling it up. (See Fig. 2-2-20.)

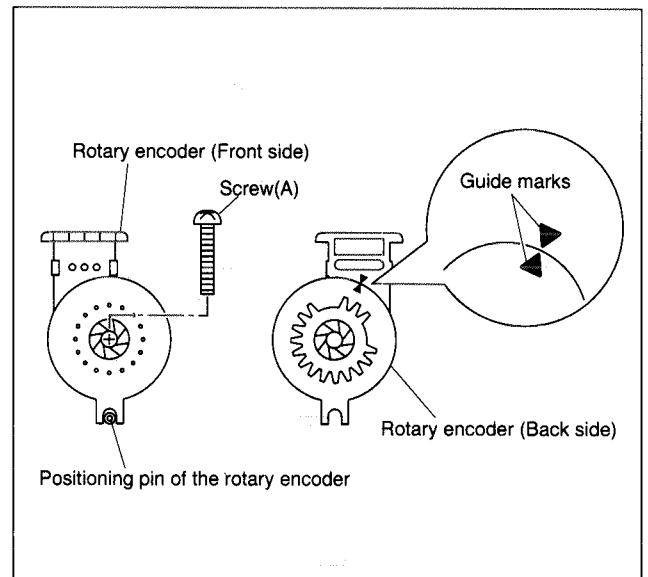


Fig. 2-2-20

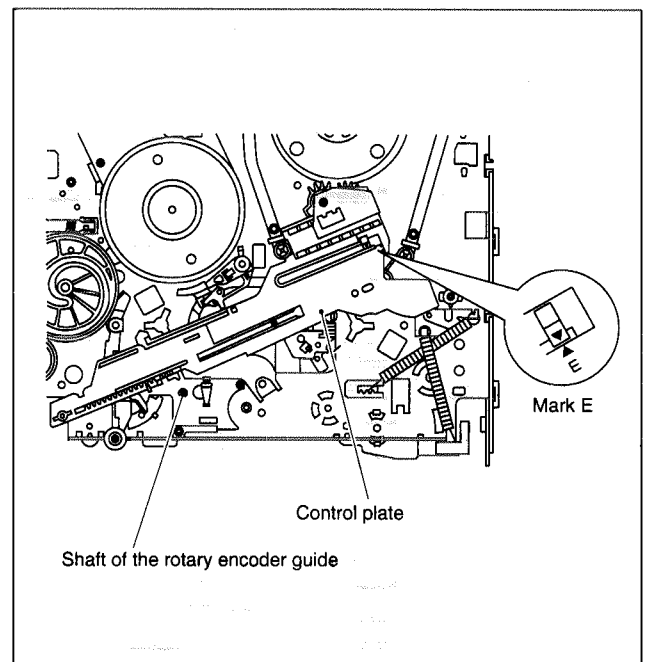


Fig. 2-2-21

2. How to install (Phase matching)

- (1) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft and bring the guide marks on the rotary encoder into alignment as indicated in Fig.2-2-20. (See Fig. 2-2-20 and Fig. 2-2-21.)
- (2) Turn over the rotary encoder with its guide marks kept in alignment and install it by fitting on the shaft of the rotary encoder guide and the positioning pin.
- (3) Tighten the screw (A) to complete the installation.

2.2.11 Clutch Unit

- (1) Remove the belt wound around the capstan motor and the clutch unit.
- (2) Remove the slit washer and remove the clutch unit.

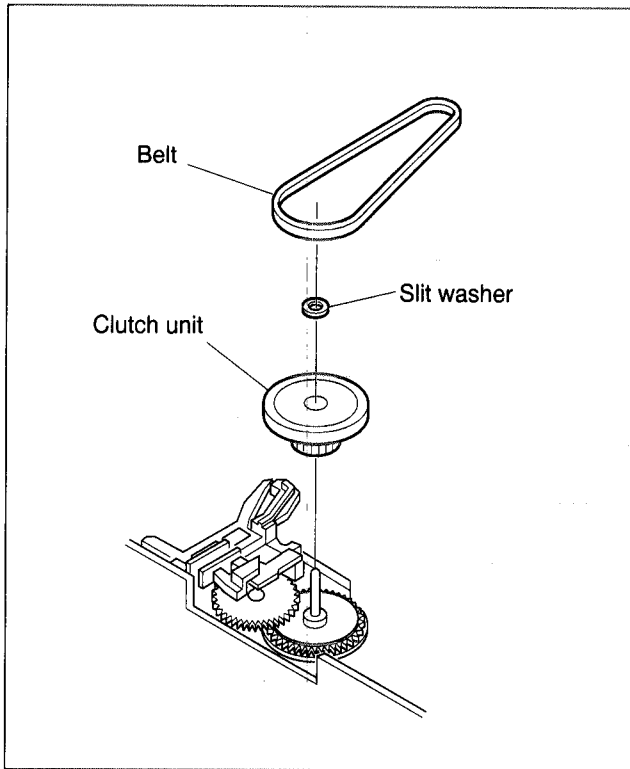


Fig. 2-2-22

1. How to remove

- (1) Release the two lugs of the rotary encoder guide in the arrow-indicated direction and remove the change lever assembly.
- (2) Remove the slit washer retaining the direct gear and remove the latter.
Take care so as not to lose the washer and spring. (See Fig.2-2-23.)

2. How to install

- (1) Install the clutch gear1, spring (A), spring (C), direct gear, spacer and others to the individual shafts of the main deck, and finally the slit washer. (See Fig.2-2-23.)
- (2) Let the spring (B) drops into the rotary encoder guide hole and install the change lever assembly. (Take care not to mistake a direction of the spring.) The point is to slightly lift the clutch gear1 and catch it from the both sides with the assembly. (See Fig.2-2-24.)

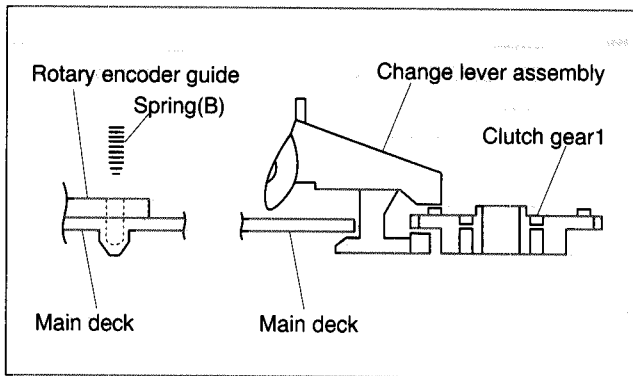


Fig. 2-2-24

2.2.12 Change Lever Assembly, Direct Gear and Clutch Gear1

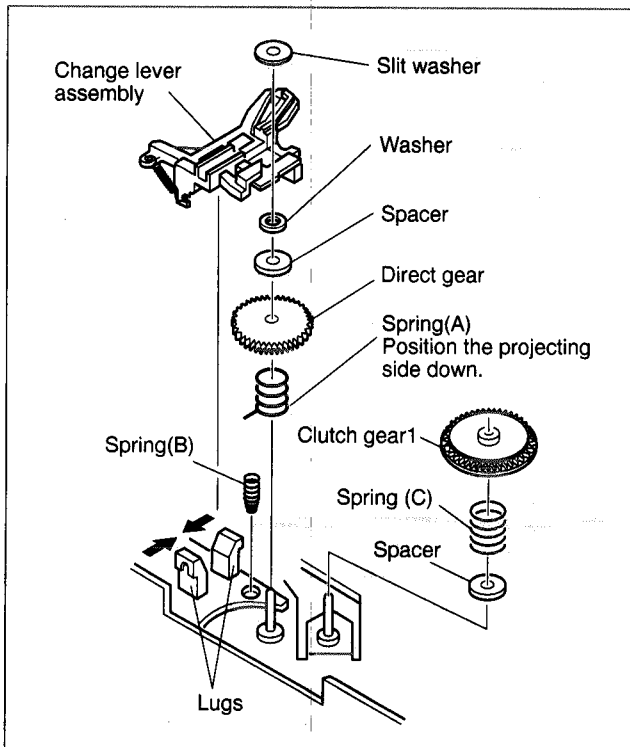


Fig. 2-2-23

2.2.13 Link Lever

1. How to remove

- (1) Remove the two slit washers.
- (2) Remove the link lever by lifting it from the shaft retained by the slit washers. Then swing the link lever counterclockwise and remove it from the locking section of the control plate.

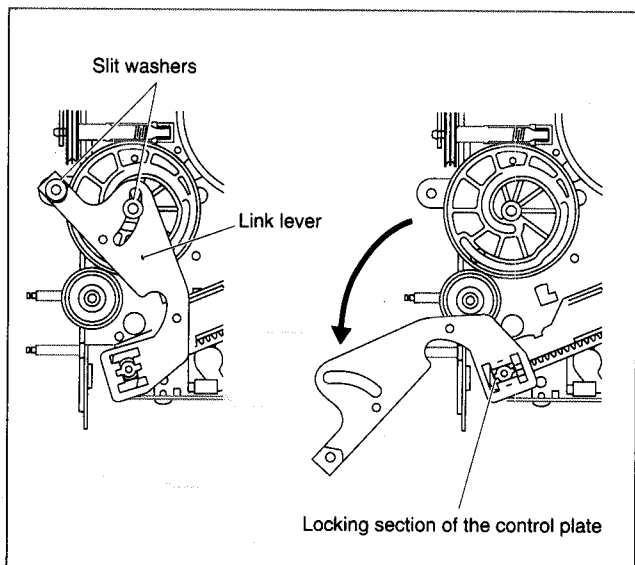


Fig. 2-2-25

2. How to install (Phase matching)

- (1) Slide the control plate so that its mark E is aligned with the mark ▼ on the loading arm gear shaft. (See Fig.2-2-26.)
- (2) Rotate the worm gear until the guide hole of the control cam is aligned exactly with the guide hole of the main deck. (See Fig.2-2-27.)
- (3) Insert the link lever into the locking section of the control plate. (See Fig.2-2-25.)
- (4) Rotate the link lever clockwise so that it is installed on the shafts in the center and on the left of the control cam.
- (5) Fasten the slit washers at these two points.

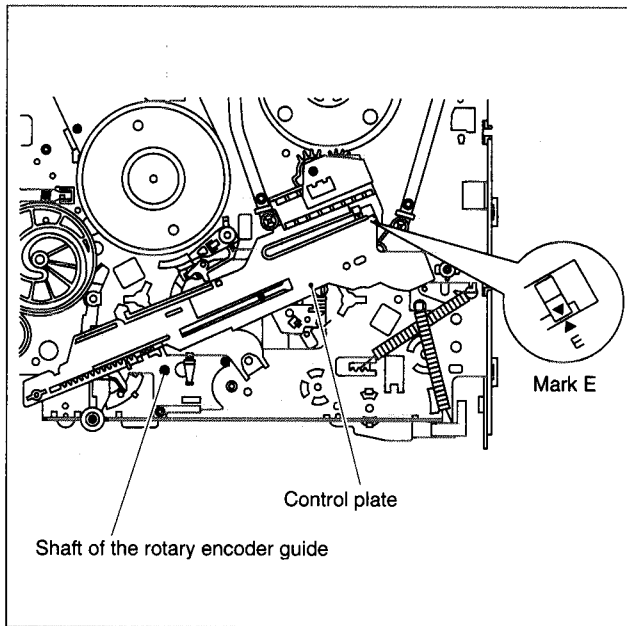


Fig. 2-2-26

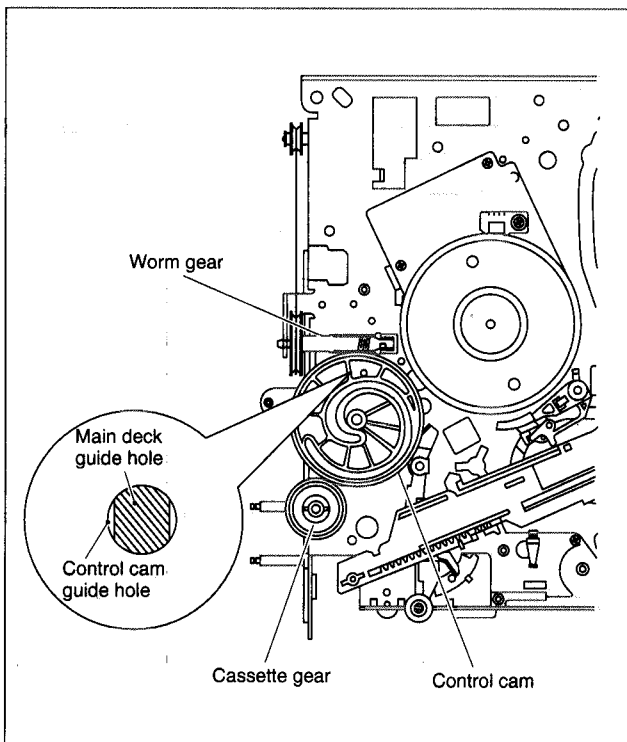


Fig. 2-2-27

2.2.14 Cassette Gear, Control Cam and Worm Gear

1. How to remove

- (1) Remove the control cam by lifting it.
- (2) Open the two lugs of the cassette gear outward and pull the latter off.
- (3) Remove the belt wound around the worm gear and the loading motor.
- (4) Open the lug of the lid guide outward and remove the worm gear.

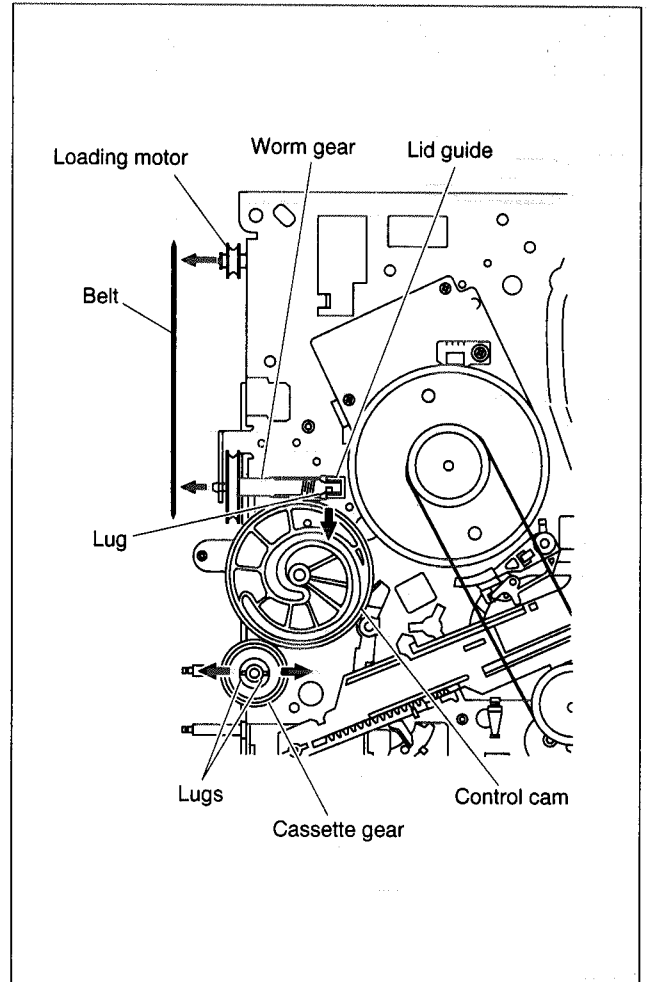


Fig. 2-2-28

2.2.15 Control Plate

1. How to remove

- (1) Remove the screw (A) retaining the control bracket 1 and remove the latter.
- (2) Slide the control plate as indicated by the arrow and remove the control plate. (See Fig.2-2-29.)

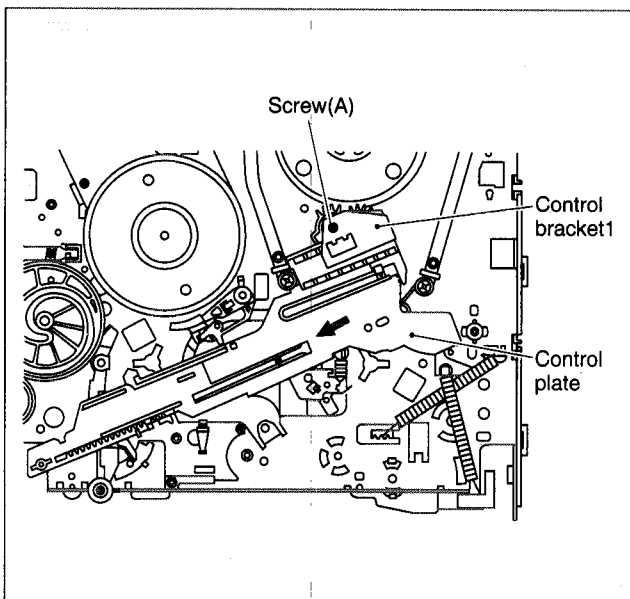


Fig. 2-2-29

2. How to install (Phase matching)

- (1) Adjust the position of the idler arm assembly pin as indicated in Fig.2-2-30 (to the left of centre of the R section).
- (2) Bring the guide hole of the take-up lever into alignment with the hole at the control plate guide and fix the position by inserting a 1.5 mm hexagonal wrench.
- (3) Install the control plate so that the section A of the loading arm gear shaft fits into the hole (A) of the control plate, the section B of the control plate guide into the hole (B), and the control plate comes under the section C of the rotary encoder guide and the section D of the loading arm gear shaft while press-fit the pole base assembly (supply side) as indicated by the arrow. It is important that the tension arm assembly shaft is positioned closer toward you than the control plate. (See Fig.2-2-31.)
- (4) Make sure that the mark E of the control plate is in alignment with the mark ▼ of the loading arm gear shaft. (See Fig.2-2-31.)
- (5) Pull off the hexagonal wrench for positioning.

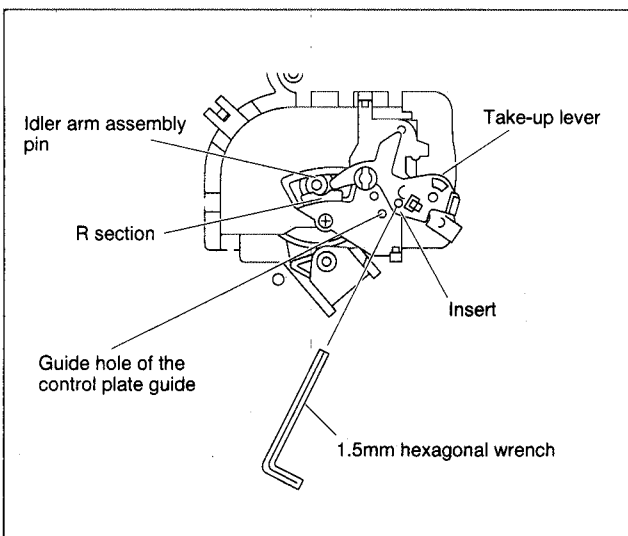


Fig. 2-2-30

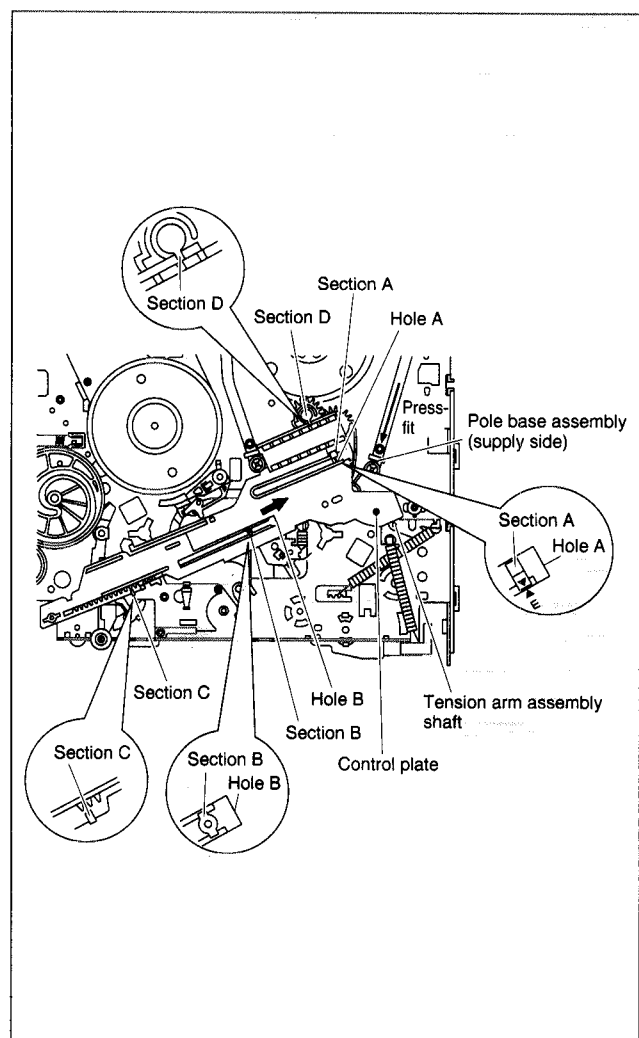


Fig. 2-2-31

2.2.16 Loading Arm Gear (supply or take-up side) and Loading Arm Gear Shaft

1. How to remove

- (1) Remove the loading arm gear (supply side) by loosening the screw (A). (See Fig. 2-2-32.)
- (2) Remove the screw (B) and remove the torsion arm from the pole base assembly (take-up side). (See Fig.2-2-32.)
- (3) Turn the loading arm gear (take-up side) clockwise so that the notch of the loading arm gear (take-up side) is in alignment with the projection of the loading arm gear shaft and lift it.
Likewise, turn the loading arm counterclockwise so that the notch is in alignment with the projection and remove the loading arm gear (take-up side). (See Fig.2-2-32 and Fig. 2-2-33.)
- (4) When removing the loading arm gear shaft, be sure of first removing the screw retaining the drum assembly (on the back side of the loading arm gear shaft). Then remove the screw (C) and remove the loading arm gear shaft by sliding it.

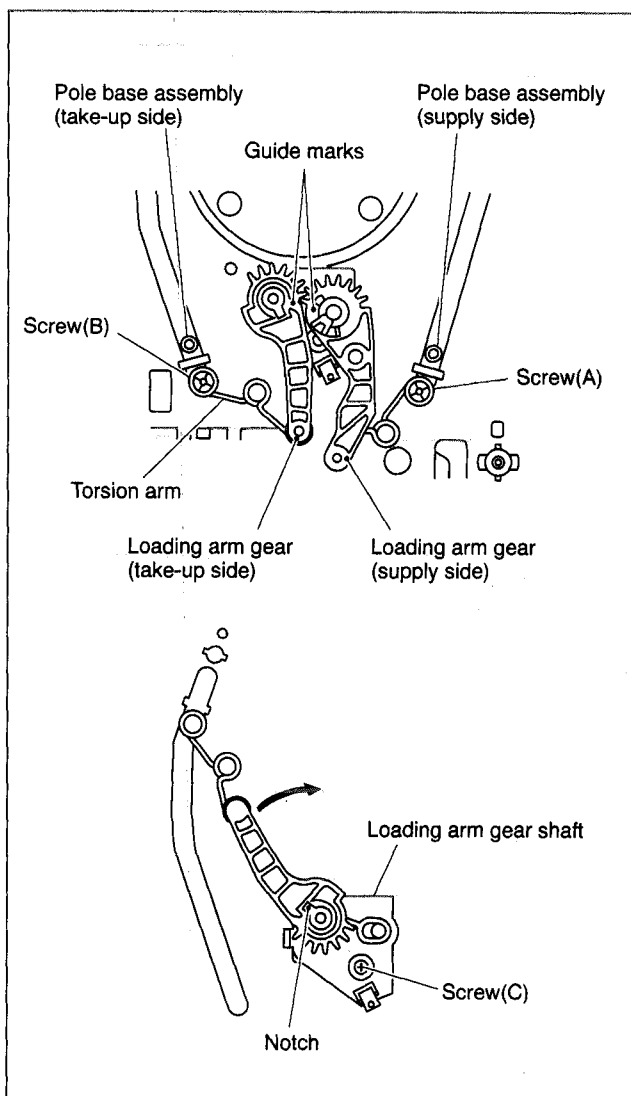


Fig. 2-2-32

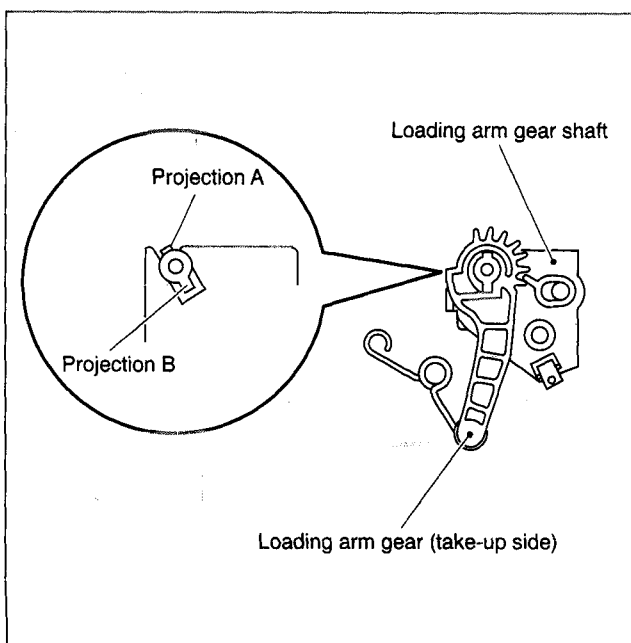


Fig. 2-2-33

2. How to install

- (1) Align the notch of the loading arm gear (take-up side) to the projection B of the loading arm gear shaft and slip it over. Then rotate it clockwise for alignment with the projection A and slip it down to the bottom. (See Fig.2-2-33.)
- (2) Then turn the loading arm gear (take-up side) counterclockwise. Hang the torsion arm on the pole base assembly (take-up side) and tighten the screw (B).
- (3) Install the loading arm gear (supply side) so that the guide mark of the loading arm gear (take-up side) is in alignment with the guide mark of the loading arm gear (supply side). Then hang the torsion arm on the pole base assembly (supply side) and tighten the screw (A). (See Fig.2-2-32.)

2.2.17 Take-up Lever, Take-up Head and Control Plate Guide

- (1) Remove the spring of the take-up lever from the main deck.
- (2) Remove the lug (A) of the take-up lever from the main deck and pull out the take-up lever and the take-up head together.
- (3) Remove the screw (A).
- (4) Align the idler arm assembly pin in the center of the R section of the control plate guide, remove the control plate guide lugs (B) and (C) from the main deck, and remove the control plate guide.

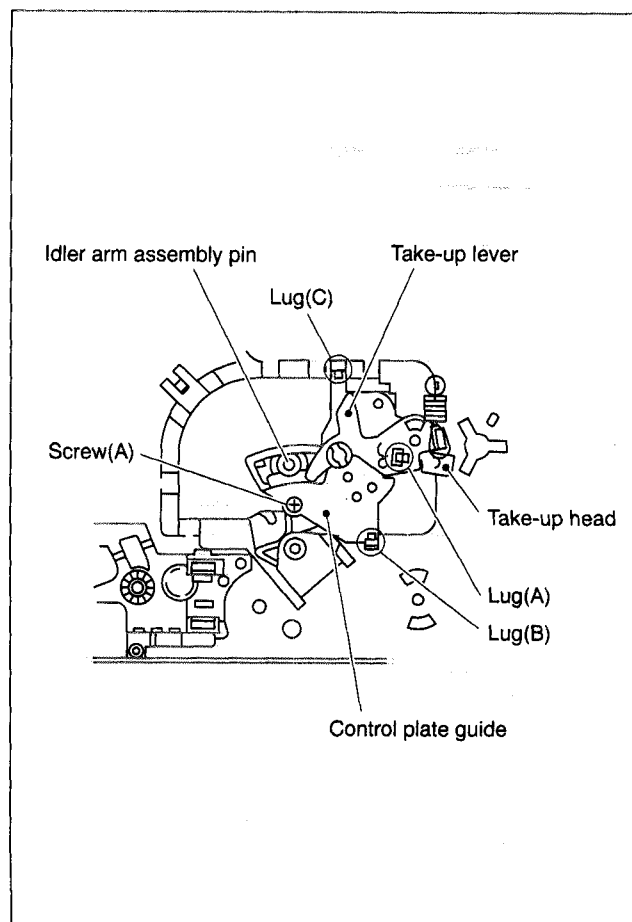


Fig. 2-2-34

2.2.18 Capstan Brake Assembly

1. How to remove

- (1) Move the lug (A) of the capstan brake assembly in the arrow-indicated direction so that it comes into alignment with the notch of the main deck. (See Fig. 2-2-35.)
- (2) Remove the lug (B) of the capstan brake assembly from the main deck and remove the capstan brake assembly.

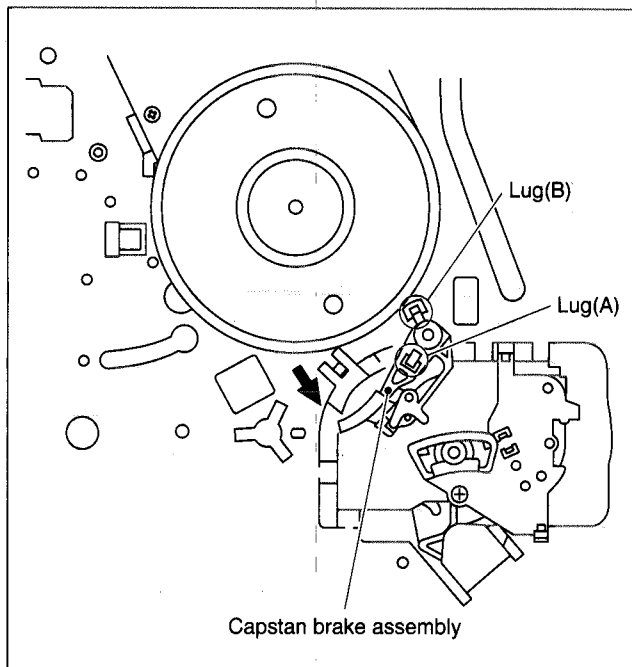


Fig. 2-2-35

2.2.19 Sub Brake Assembly (take-up side)

1. How to remove

- (1) Remove the spring attached to the lid guide and sub brake assembly (take-up side).
- (2) Bring the lug (A) of the sub brake assembly (take-up side) into alignment with the notch of the main deck.
- (3) Remove the lugs (B) and (C) of the sub brake assembly (take-up side) from the main deck and remove the sub brake assembly (take-up side).

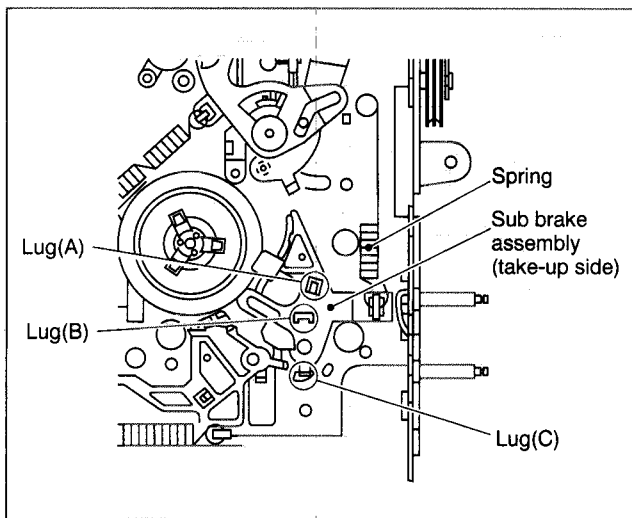


Fig. 2-2-36

2.2.20 Main Brake Assembly (take-up side), Reel Disk (take-up side) and Main Brake Assembly (supply side)

1. How to remove

- (1) Move the main brake assembly (take-up side) in the arrow-indicated direction and remove the reel disk (take-up side).
- (2) Remove the spring attached to the main brake assembly.
- (3) Remove the lug (A) of the main brake assembly (take-up side) and pull out the lug (B) after bringing it into alignment with the main deck notch.
- (4) Remove the lugs (C), (D) and (E) of the main brake assembly (supply side) from the main deck and pull them off. (See Fig.2-2-37.)

Note: If the main brake assembly is difficult to remove, press it and hold the adjustment pin from the back side of the main deck when attempting to remove it. After the adjustment pin has been removed or the main brake assembly or the reel disk on the supply or take-up side have been replaced, it is required to adjust the main brake assembly torque. See page 2-23 for the detailed adjustment procedures.

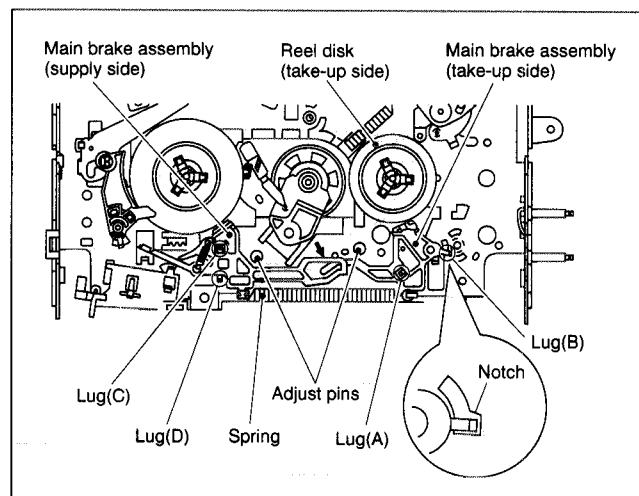


Fig. 2-2-37

- (5) When installing the main brake assembly (take-up side), slide the brake lever in the direction as indicated by the arrow to prevent it from hitting the projection of the main brake assembly (take-up side). (See Fig.2-2-38.)

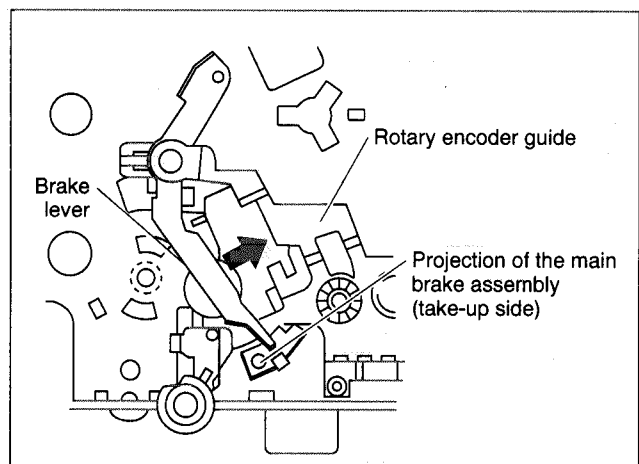


Fig. 2-2-38

2.2.21 Tension Brake Assembly, Reel Disk (supply side) and Tension Arm Assembly

1. How to remove

- (1) Remove the three lugs of the tension brake assembly from the main deck and pull them off.
- (2) Remove the reel disk (supply side) by loosening in the arrow-indicated direction the main brake assembly (supply side).
- (3) Remove the tension spring on the back of the main deck. Then release the lug of the tension arm bearing in the arrow-indicated direction and draw out the tension arm assembly. (See Fig. 2-2-39.)

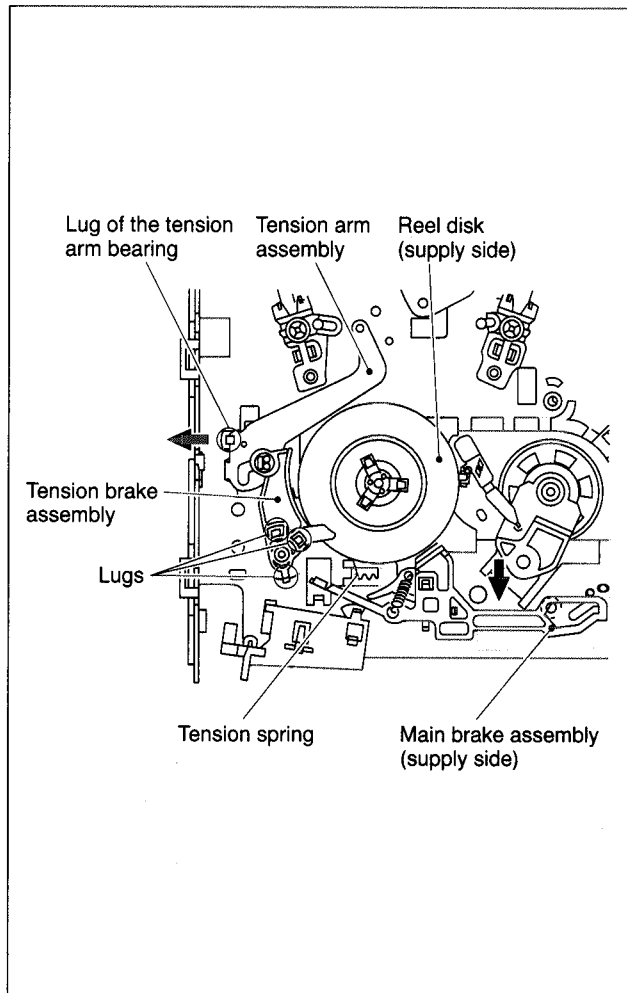


Fig. 2-2-39

2.2.22 Idler Lever, Idler Arm Assembly

1. How to remove

- (1) Remove the lug of the idler lever from the main deck and remove the hook fitted in the idler arm assembly hole by lifting it.
- (2) Remove the slit washer and pull out the idler arm assembly.

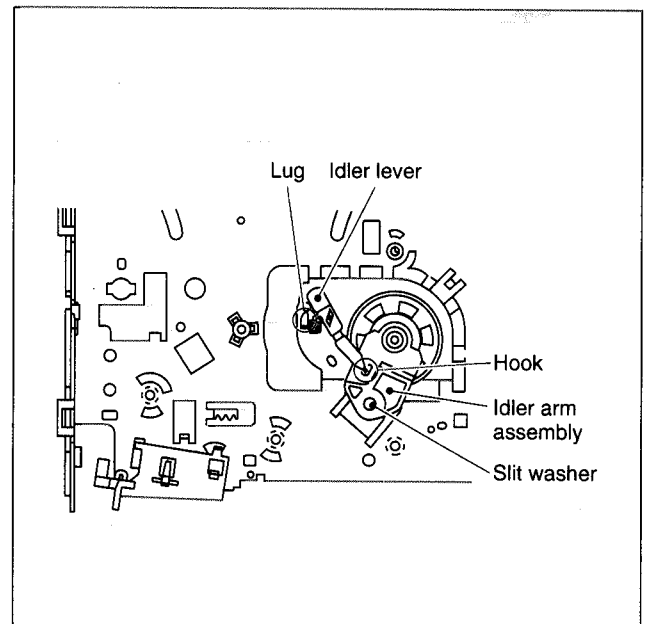


Fig. 2-2-40

2.2.23 Stator Assembly

- (1) Remove the flat cable.
- (2) Remove the two screws (A).
- (3) Remove the stator assembly by lifting in the arrow-indicated direction. (Take care that the brush spring does not jump out.)
- (4) After installation, be sure to perform the PB switching point adjustment according to the electrical adjustment procedure.

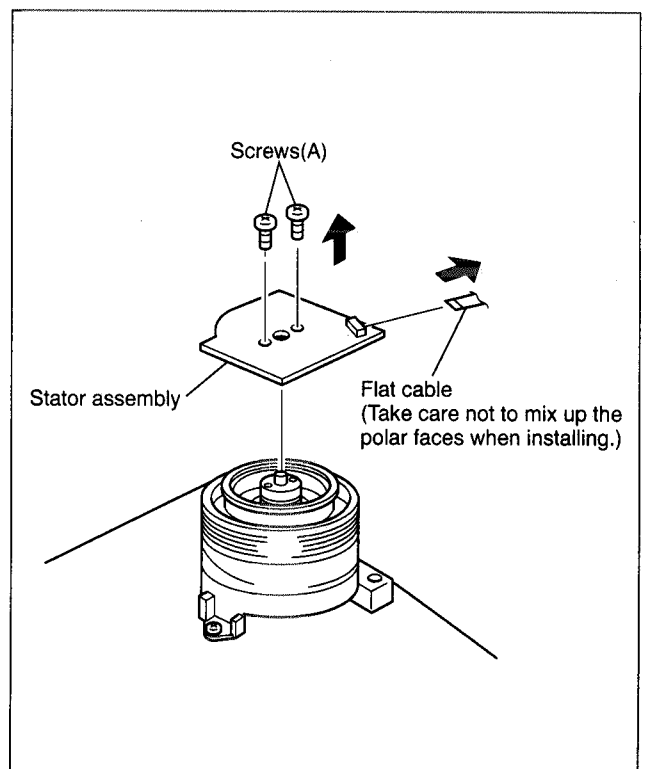


Fig. 2-2-41

2.2.24 Rotor Assembly

- (1) Remove the stator assembly.
- (2) Remove the two screws (B) and remove the rotor assembly.

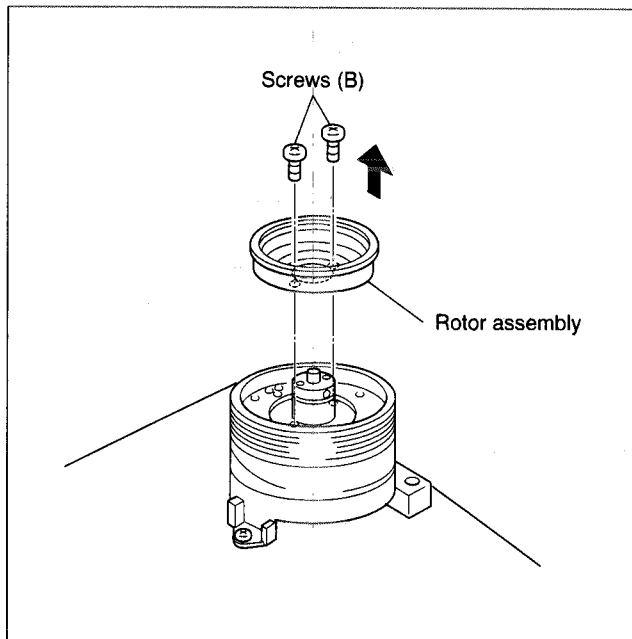


Fig. 2-2-42

Note: When installing the rotor assembly, note that a normal picture cannot be obtained without ensuring the phase matching as mentioned below.

- (3) Match the phases of the upper drum assembly and the rotor assembly as indicated in Fig.2-2-43.
- (4) Place the upper drum assembly hole (a) over the rotor assembly holes (b) (with three holes to be aligned) and tighten the two screws (B). (See Fig.2-2-43.)

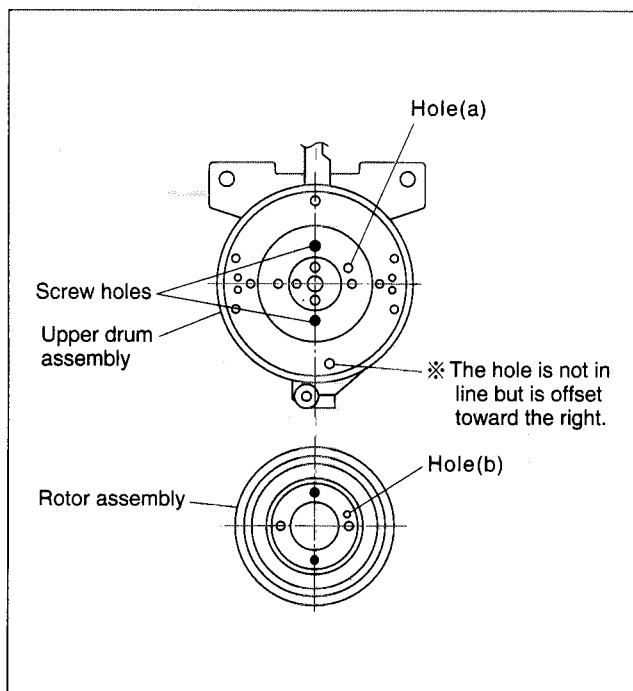


Fig. 2-2-43

2.2.25 Upper Drum Assembly

1. How to remove

- (1) Remove the stator assembly and rotor assembly.
- (2) Loosen the screw of the collar assembly using a 1.5 mm hexagonal wrench and remove the collar assembly. Also remove the brush, spring and cap at one time.
- (3) Remove the upper drum assembly and remove the washer using tweezers.

Note: When replacement is required, control the up-down movement of the brush. Never apply grease.

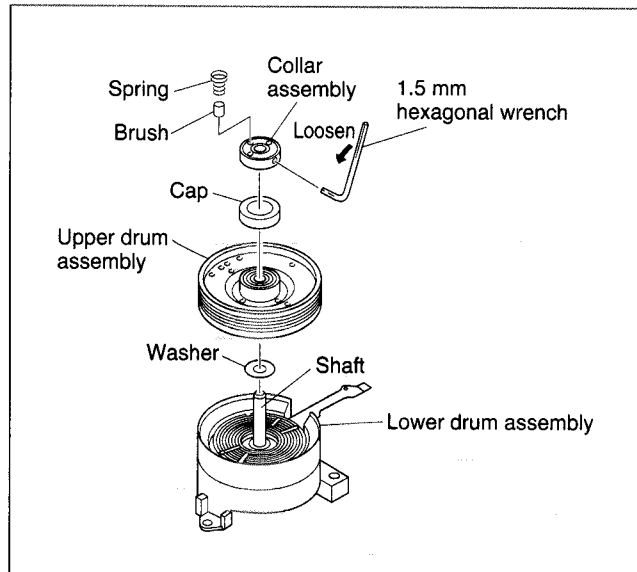


Fig. 2-2-44

2. How to install

- (1) Clean the coil parts of the lower drum assembly and the newly installed upper drum assembly with an air brush in advance. (See Fig.2-2-45.)
- (2) Install a new washer and upper drum assembly on the drum shaft. (See Fig.2-2-44.)

Note: When replacing the upper drum assembly, replace it together with the washer.

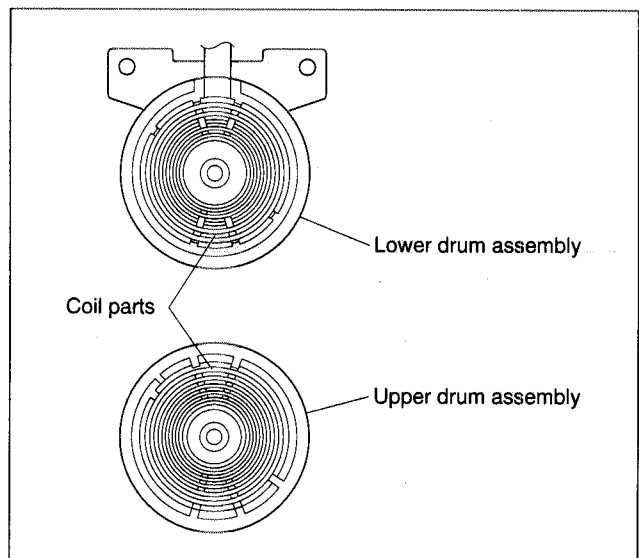


Fig. 2-2-45

- (3) Install the cap to the upper drum assembly.
- (4) Position the collar assembly as indicated in Fig.2-2-46 while controlling its up-down movement.

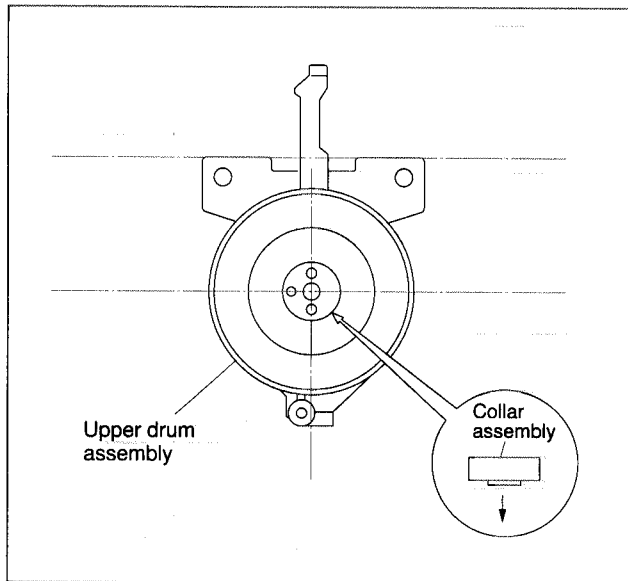


Fig. 2-2-46

- (5) Secure the collar assembly in position with a hexagonal wrench while pressing its top with the fingers.

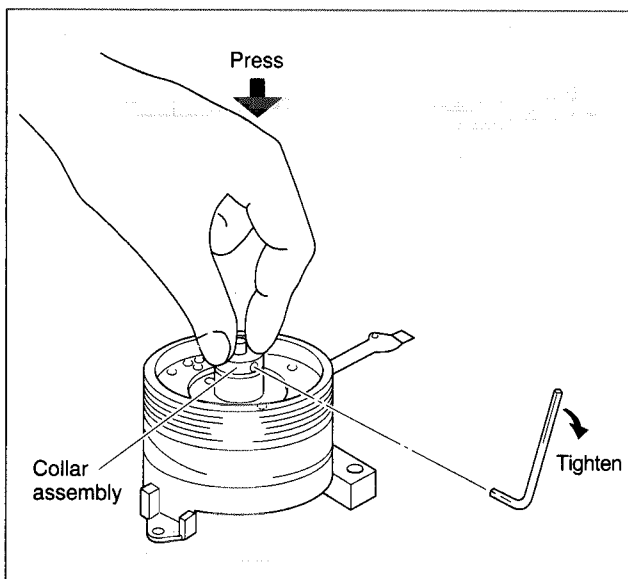


Fig. 2-2-47

- (6) After installation, gently turn the upper drum assembly with your hand to make sure that it turns normally. Then install the brush and the spring.
- (7) Install the rotor assembly and stator assembly according to Fig 2-2-41 and 2-2-42.
- (8) When installation is complete, clean the upper drum assembly and lower drum assembly and carry out the following adjustments.
 - PB switching point adjustment
 - Slow tracking adjustment
 - Compatibility adjustment (Be sure to check for compatibility for the LP mode.)

2.3 COMPATIBILITY ADJUSTMENT

- Notes:**
- Although compatibility adjustment is very important, it is not necessary to perform this as part of the normal servicing work. It will be required when you have replaced the audio control head, drum assembly or any part of the tape transport system.
 - To avoid any damage to the alignment tape while performing the compatibility adjustment, get a separate cassette tape (for recording and play back) ready to be used for checking the initial tape running behavior.

2.3.1 Checking/Adjustment of FM Waveform Linearity

- (1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.F.F) of the main board assembly for external sync connection.
- (2) Playing the alignment tape MHPE, observe the FM waveform.
- (3) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings tracking to the centre.)
- (4) Make sure that there is no significant level drop of the FM waveform caused by the tracking operation, with its generally parallel and linear variation ensured. Perform the following adjustments when required. (See Fig.2-3-1.)
- (5) Reduce the FM waveform while pressing the channel buttons (▲, ▼) during playback. If a drop in level is found on the left side, turn the guide roller of the pole base assembly (supply side) with the roller driver (PTU94002) to make the FM waveform linear. If a drop in level is on the right side, likewise turn the guide roller of the pole base assembly (take-up side) with the guide roller to make it linear. (See Fig.2-3-3.)
- (6) Then play MHPE-L and make sure that the FM waveform varies in parallel and linearly with the tracking operation. When required, perform fine-adjustment of the guide roller of the pole base assembly (supply or take-up side).
- (7) Unload the cassette tape once, play the alignment tape MHPE-L again and confirm the FM waveform.

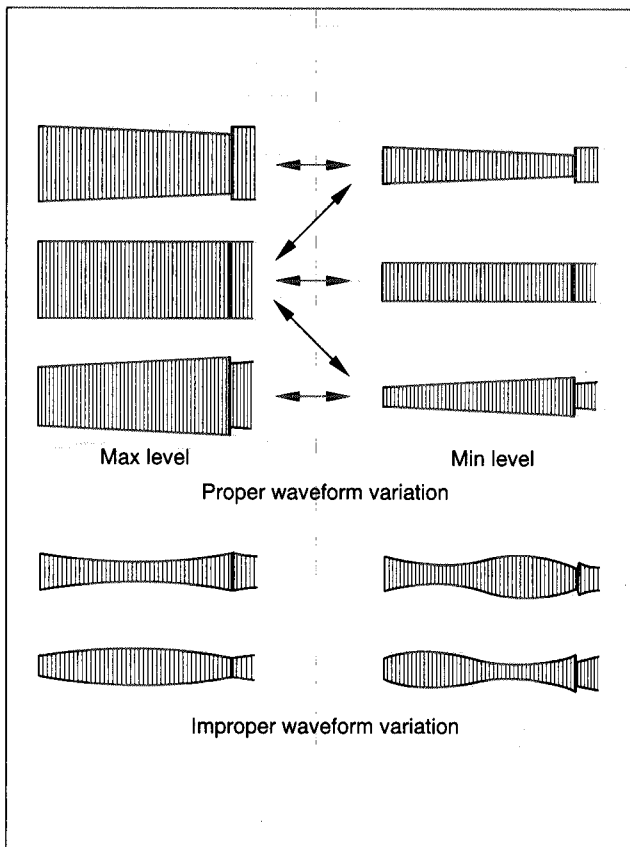


Fig. 2-3-1

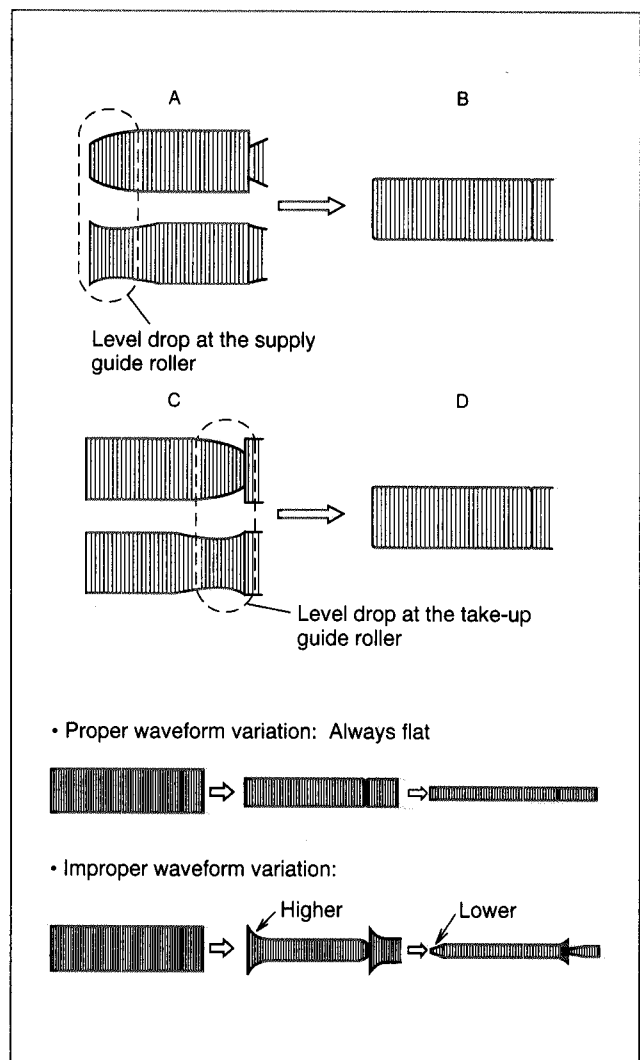


Fig. 2-3-3

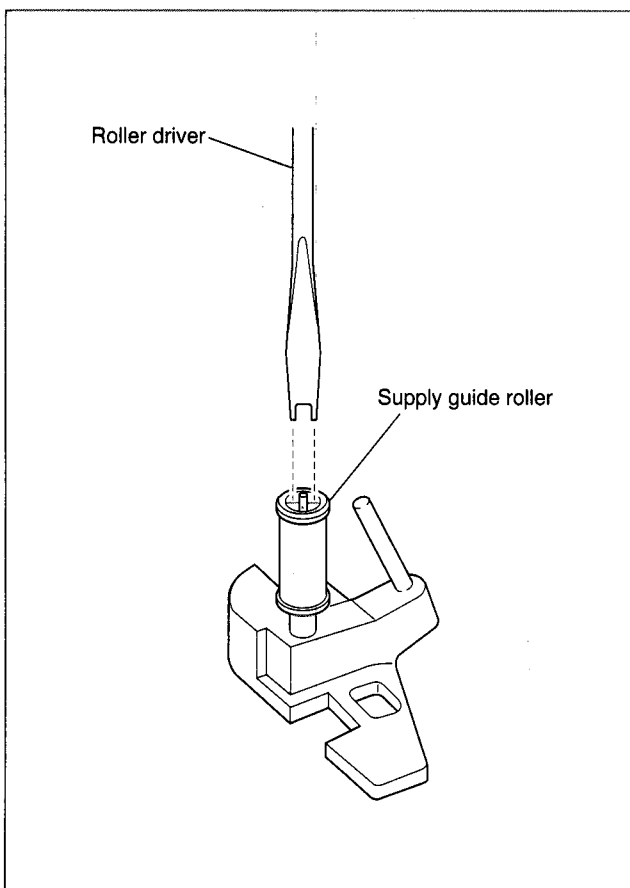


Fig. 2-3-2

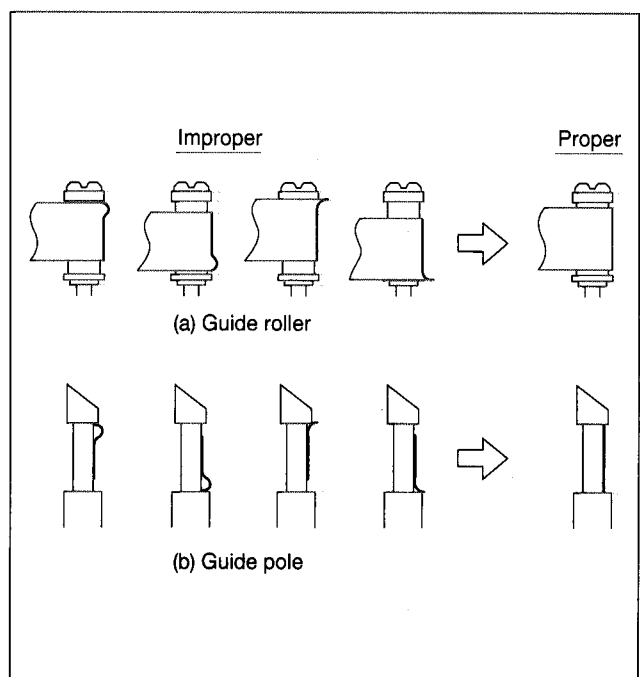


Fig. 2-3-4

2.3.2 Checking/Adjustment of the Height and Tilt of the Audio Control Head

Note: Set a temporary level of the height of the A/C head in advance to make the adjustment easier after the A/C head has been replaced. (See Fig.2-2-15.)

- (1) Connect CH-1 of the oscilloscope to AUDIO OUT and CH-2 to TP4001 (CTL.P) of the main board assembly and observe the waveforms on both channels in the ALT mode.
- (2) Play the alignment tape MHPE and adjust it by turning the screws (1), (2) and (3) little by little until the waveform of both the audio output signal and the control pulse reach maximum. The screw (1) and screw (3) are for adjustment of tilt and screw (2) for azimuth.

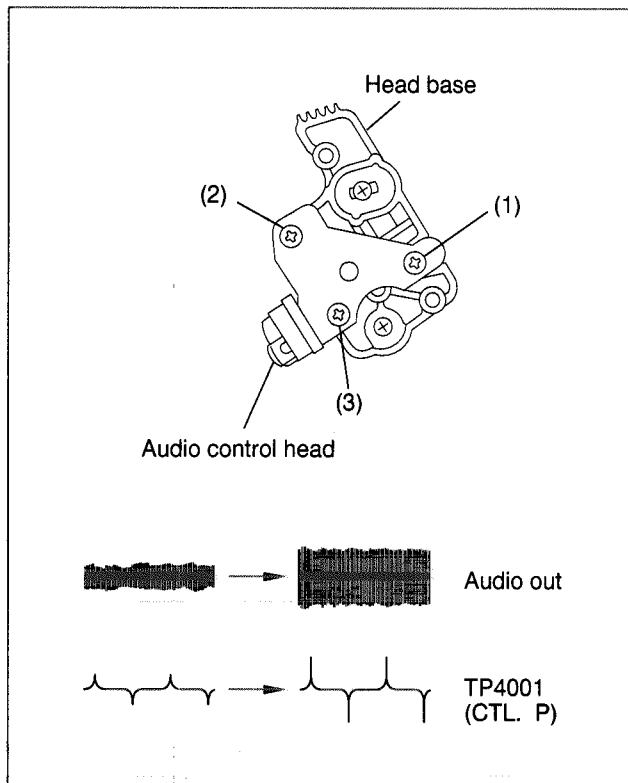


Fig. 2-3-5

2.3.3 Checking/Adjustment of the Audio Control Head Phase (X-Value)

- (1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
- (2) Play the alignment tape MHPE and observe the FM waveforms.
- (3) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings tracking to the centre.)
- (4) Loosen screws (4) and (5) so that the A/C head position bit (PTU94010) is set as indicated in Fig.2-3-6.
- (5) Turn the A/C head position bit fully toward the capstan. Then turn it back gradually toward the drum and stop on the second peak point position of the FM waveform output level. Then tighten the screw (4) temporarily.

- (6) Then play the alignment tape MHPE-L.
- (7) Press the channel buttons (▲, ▼) simultaneously during playback to enter the manual tracking mode. (This also brings the tracking to the centre.)
- (8) Perform the tracking operation and make sure that the FM waveform is at its maximum.
- (9) If it is not at maximum, loosen the temporarily tightened the screw (4) and turn the A/C head position bit to bring the audio control head to a position, around where the waveform reaches its maximum for the first time. Then tighten the screws (4) and (5).

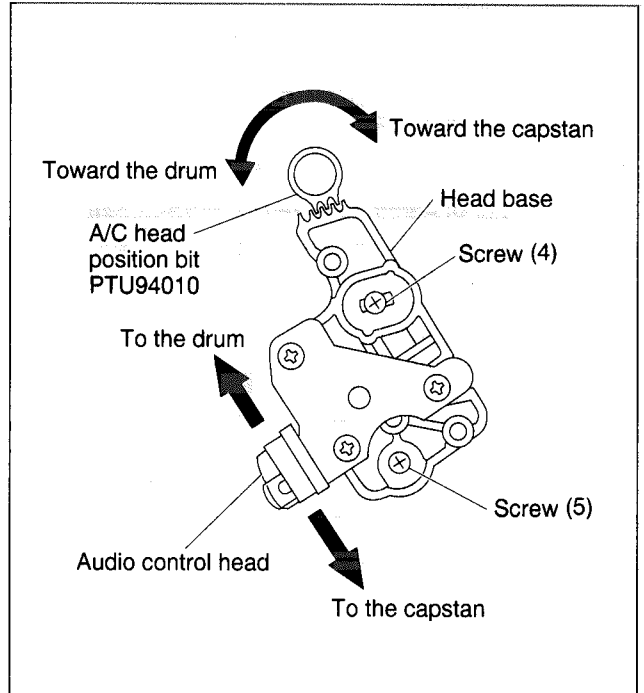


Fig. 2-3-6

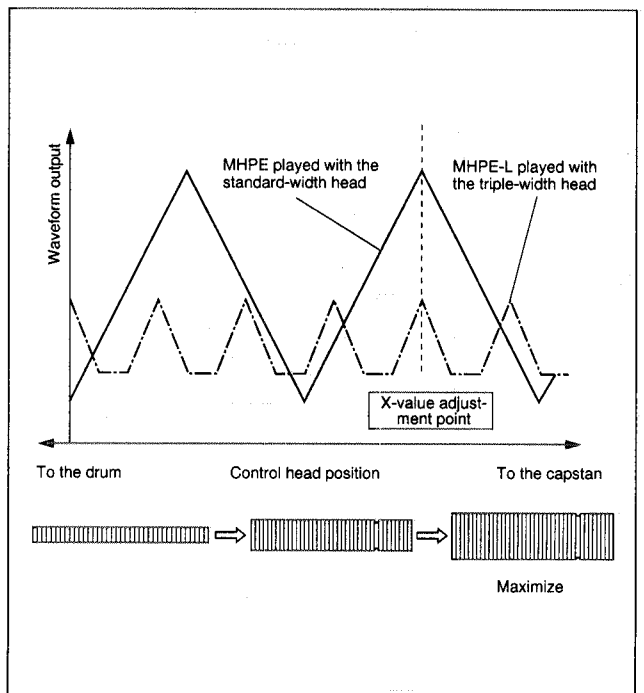


Fig. 2-3-7

2.3.4 Checking/Adjustment of the Standard Tracking Preset

Note: Set the remote control code of the video recorder to A mode.

(The unit set in B mode does not accept the remote control code of the presetting unit.)

- (1) Connect the oscilloscope to TP106(V. PB FM) of the main board assembly and to TP111(D.FF) of the main board assembly for external sync connection.
- (2) Playing the alignment tape MHPE-L and observing the FM waveform, make sure that the auto tracking operation is complete.
- (3) Press the "D" button of the presetting unit twice.
- (4) Make sure that the MHPE-L is not ejected.
- (5) If ejected, again perform the phase (X-value) adjustment of the audio control head.

2.3.5 Checking/Adjustment of the Tension Pole

- (1) Check the back tension cassette gauge (PUJ48076-2) to make sure that the indicator points to 25 - 51 gf•cm.
- (2) If the indicated value is outside this range, carry out the following adjustment steps.
 - 1) Select the mechanism servicing mode. (See 1.5 MECHANISM SERVICE MODE.)
 - 2) While in the Play mode, turn the adjustment pin with a straight-slot screwdriver while taking care not to touch the 2.5 mm dia. pole. (See Fig.2-3-8.)

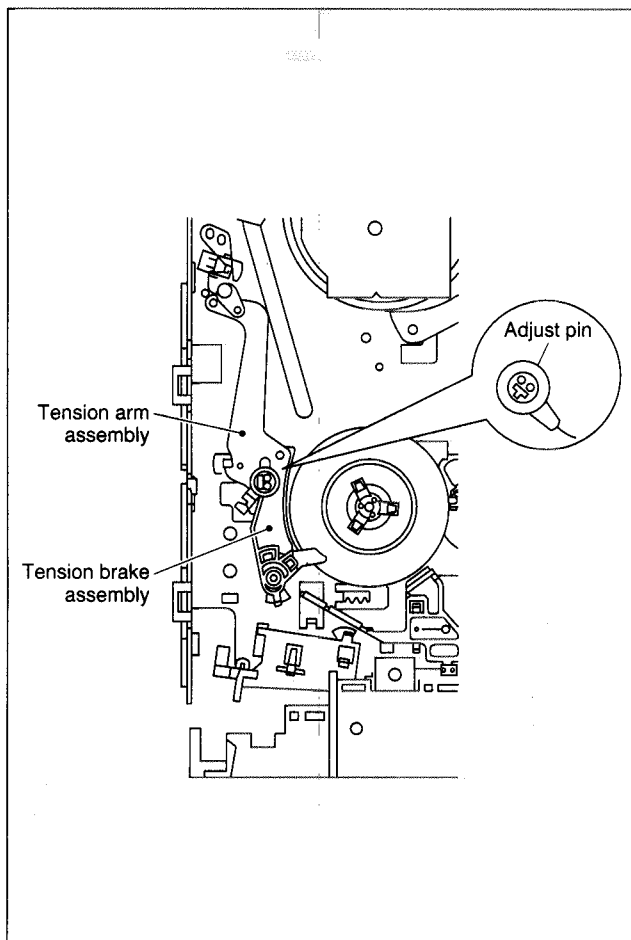


Fig. 2-3-8

2.3.6 Adjustment of the Tension Stud

- (1) Adjust so that the left side of the tension stud is on the extension of the notch line of the main deck. (See Fig. 2-3-9.)

Note: Adjustment is not usually necessary for the tension stud. Perform this adjustment only when it is out of position.

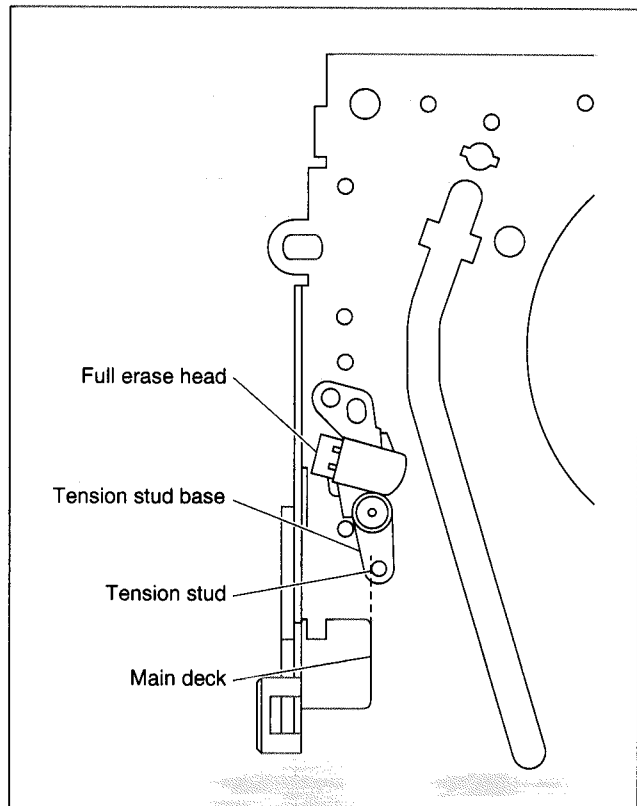


Fig. 2-3-9

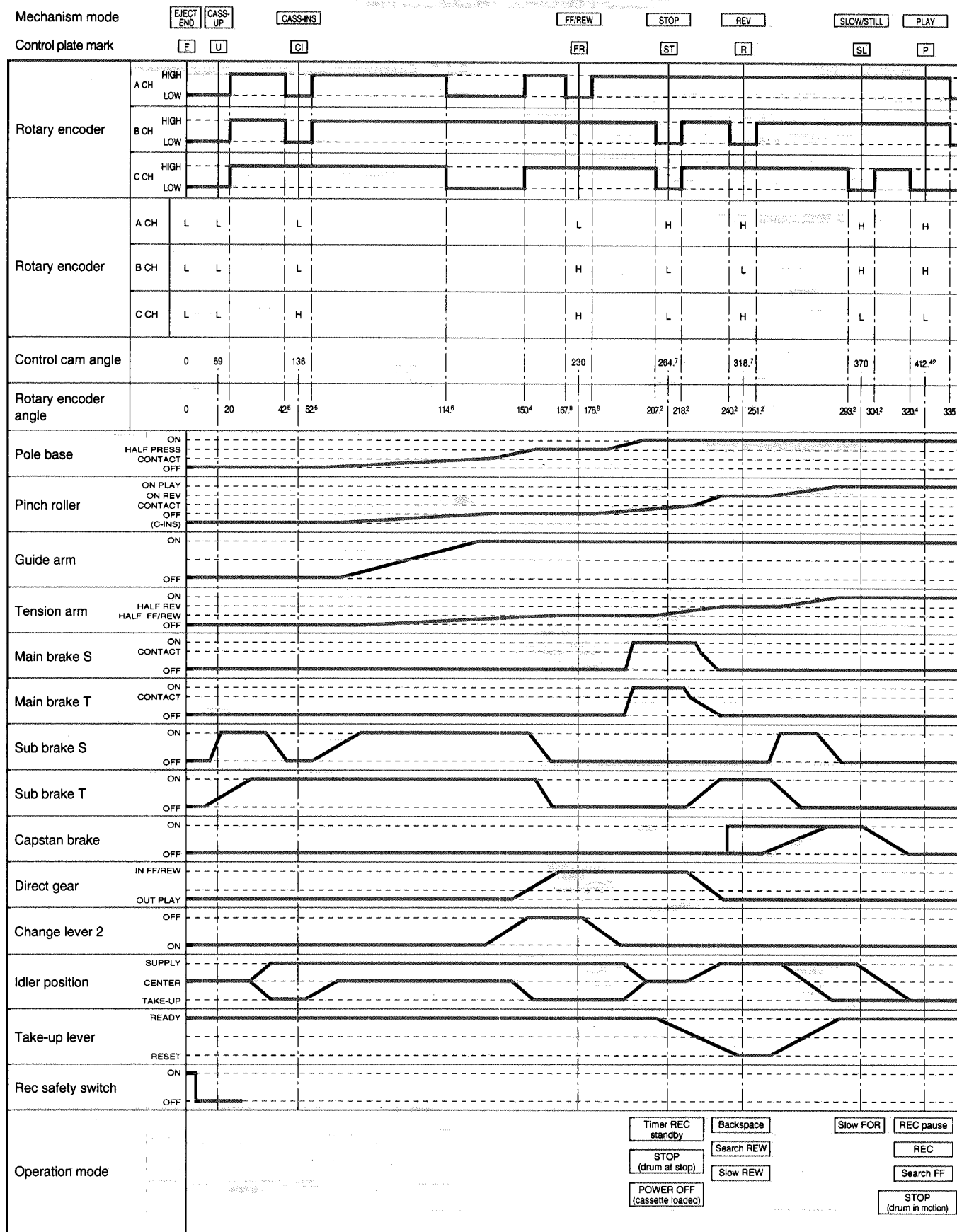
2.3.7 Main Brake Torque Adjustment

Note: Adjustment of the main brake torque is required after the adjustment pin has been removed or the main brake assembly or the reel disk on the supply or take-up side have been replaced, removed or attached.

- (1) Rotate the pulley of the loading motor by hand to align the mark ▼ on the loading arm gear shaft with the ST marking on the control plate (i.e. set to the STOP mode position).
- (2) Insert a torque gauge (PUJ48075-2) into the reel disk on the side to be played, hold the torque gauge lightly, rotate it clockwise when measuring the supply side torque or counterclockwise when measuring the take-up side torque, and read the value indicated at the moment the reel disk starts to slip.
- (3) Make sure that the main brake torque values on the supply and take-up sides are both between $23.5 - 78.4 \times 10^{-3} \text{ N}\cdot\text{m}$ (240 — 800 gf•cm). If the value is outside the specified range, adjust to the specified value by rotating the adjustment pin.

If an adjustment by using the adjustment pin is not possible, replace the main brake assembly.

Mechanism Timing Chart



SECTION 3 ELECTRICAL ADJUSTMENT

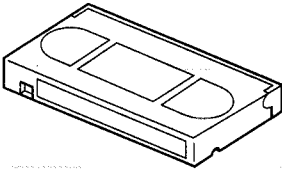
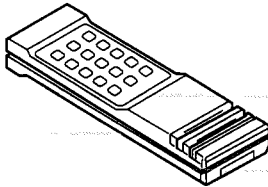
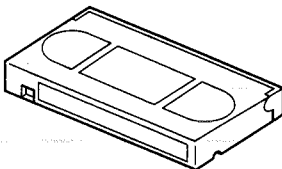
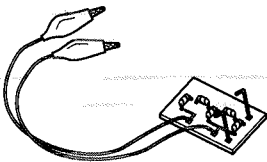
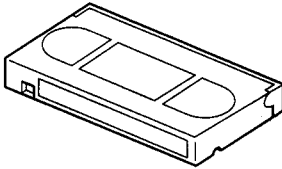
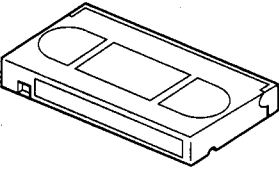
3.1 PRECAUTION

Electrical adjustment are required after replacing circuit components and certain mechanical parts. It is important to perform these adjustments only after all repairs and replacements have been completed. Also do not attempt these adjustments unless the proper equipments is available.

3.1.1 Required test equipment

- ① Colour television or monitor
- ② Oscilloscope: wide-band,dual-trace,triggered delayed sweep
- ③ Frequency counter
- ④ Signal generator: RF/IF sweep/marker
- ⑤ Signal generator: PAL colour bar, stairstep
- ⑥ Recording tape (VHS tape/S-VHS tape)
- ⑦ Digit-key remote controller(provided)

3.1.2 Required adjustment tools

Alignment tape (SP, stairstep) MHPE	Presetting unit PTU94008
	
Alignment tape (S-VHS, SP/LP, colour bar) MH-2H	LPF PTU93006
	
Alignment tape (SP, stairstep) MHP	Alignment tape (LP, stairstep) MHPE-L
	

3.1.3 Colour bar signal,colour bar pattern

● PAL colour bar signal

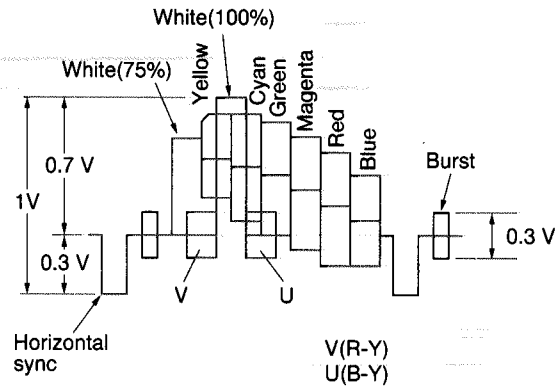


Fig.3-1-1 PAL colour bar signal waveform

● PAL colour bar pattern

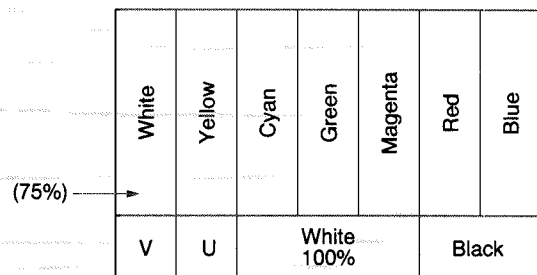


Fig.3-1-2 PAL colour bar pattern

Note:

The system control circuit of this model has an automatic recognition about the ON-OFF control of the **DOCTOR SYSTEM**.

3.2 SERVO CIRCUIT

- Notes:**
- Unless otherwise specified, all measurement points and adjustment parts are located on the MAIN BOARD.
 - Set the VCR to the mode A by the remote controller.

3.2.1 PB switching point

Signal	• Alignment tape [MHPE], Stairstep • Alignment tape [MHP], Stairstep
Mode	• PB • TBC : OFF
Equipment	• Oscilloscope
Measurement point	• VIDEO OUT TERMINAL
Trigger slope (-)	• TP111(D.FF)
Adjustment tool	• Presetting unit [PTU94008]
Specification	• $8.0 \pm 0.5\text{H}$ [MHPE] • $7.5 \pm 0.5\text{H}$ [MHP]

Note: • Use only the "E" and "F" buttons, depressing other buttons during adjustment may cause adjustment errors.

- (1) Playback the stairstep signal of the alignment tape [MHPE].
- (2) Connect an oscilloscope to VIDEO OUT TERMINAL and TP111 (negative slope), and then observe VIDEO OUT TERMINAL.
- (3) Adjust by pressing the "E" or "F" buttons of the presetting unit so that the switching point becomes $8.0 \pm 0.5\text{H}$ from V.sync.
- (4) Depress the STOP button.
- (5) Playback the stairstep signal of the alignment tape [MHP].
- (6) Adjust by pressing the "E" or "F" buttons of the presetting unit so that the switching point becomes $7.5 \pm 0.5\text{H}$ from V.sync.
- (7) Depress the STOP button.

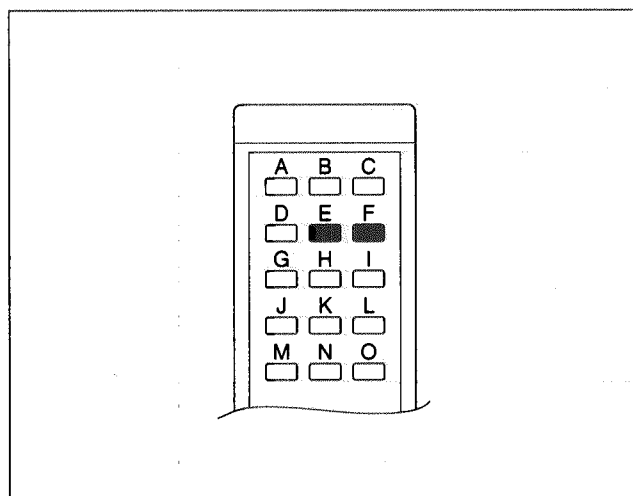


Fig. 3-2-1 Presetting unit

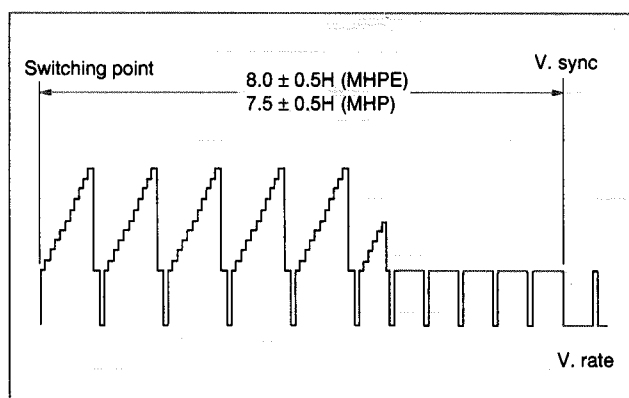


Fig. 3-2-2 PB switching point

3.2.2 Slow tracking preset

Signal	• Tuner or colour bar
Mode	• SP/LP : REC → PB(SLOW) • S-VHS • Automatic tracking OFF
Equipment	• TV-Monitor
Adjustment tool	• Presetting unit (PTU94008)
Specification	• Minimum noise

Note: • Use only the "B" and "C" buttons, depressing other buttons during adjustment may cause adjustment errors.

- (1) Record a colour bar signal in the SP mode.
- (2) Playback the recorded signal on the FWD slow mode.
- (3) Set the tracking control to the centre position by simultaneously pressing the CH "+" and "-" buttons.
- (4) Observe the display on the TV monitor and adjust for optimum noise condition (best tracking) by depressing the "B" or "C" buttons of the presetting unit.
- (5) Depress the STOP button.
- (6) Confirm that the bar noise is not visible on the TV monitor in the slow mode.
- (7) Repeat steps (2) to (6) in the REV slow mode.
- (8) Repeat steps (1) to (7) in the LP mode.

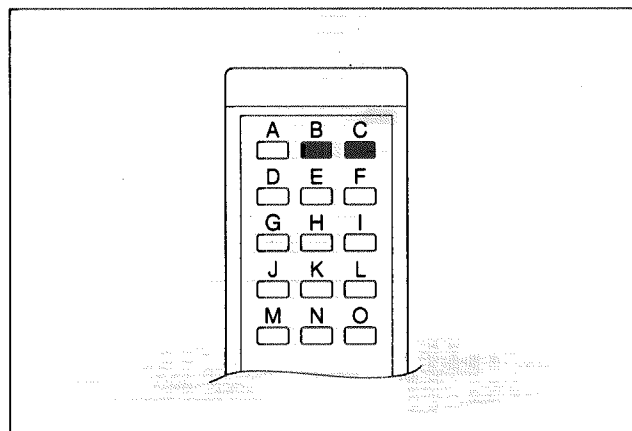


Fig. 3-2-3 Presetting unit

3.2.3 Dynamic drum preset

Signal	• Alignment tape [MHPE-L], Stairstep
Mode	• Automatic tracking OFF
Equipment	• Oscilloscope
Measurement point	• TP106 (V.PB FM)
Trigger slope (+)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008]
Specification	• FM waveform flat

Note: • Use only the “D”, “E” and “M” buttons, depressing other buttons during adjustment may cause adjustment errors.

- (1) Connect an oscilloscope to TP106 and external trigger from TP111 (positive slope).
- (2) Playback the LP stairstep portion of the alignment tape.
- (3) Set the automatic tracking control to the OFF by simultaneously pressing the CH “+” and “-” buttons.
- (4) Adjust for maximum level of playback FM waveform by depressing the CH “+” or “-” buttons.
- (5) Set the VCR to the LP 2x mode.
- (6) Adjust for half level of playback FM waveform from maximum level by depressing the CH “+” or “-” buttons.
- (7) Adjust by pressing the “M+D” or “M+E” buttons of the presetting unit for FM waveform is flat as shown in Fig. 3-2-5.
- (8) Record the stairstep signal by the LP mode and play it back.
- (9) Repeat steps (3) and (7) in the LP 1/6 FWD slow mode.

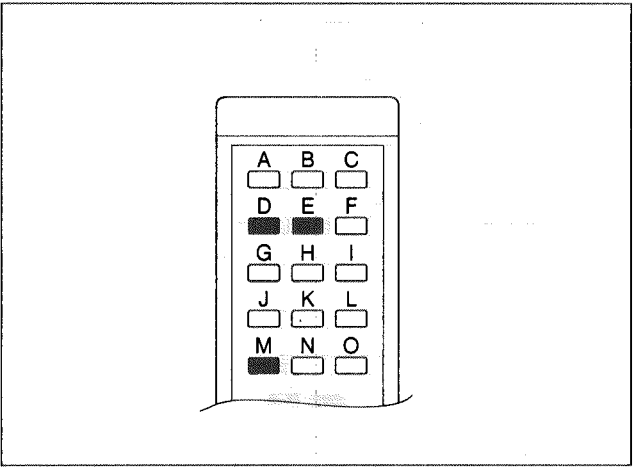


Fig. 3-2-4 Presetting unit

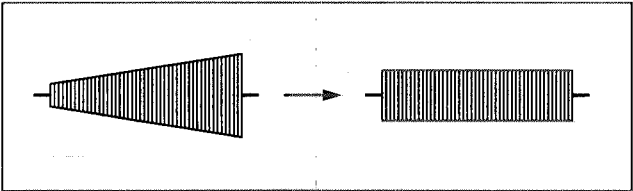


Fig. 3-2-5 PB FM

3.3 VIDEO CIRCUIT

- Notes:** • Unless otherwise specified, all measurement points and adjustment parts are located on the MAIN BOARD.
- VIDEO circuit adjustments are performed by the EVR system by use of the presetting unit and digit-key remote controller.
 - S-INPUT means Y/C separated video signal in the chart.
 - Set the VCR to the mode A by the remote controller.
 - Unless otherwise specified, set the VCR to the following mode.

B.E.S.T	OFF
PICTURE CONTROL	NORMAL
TBC	ON

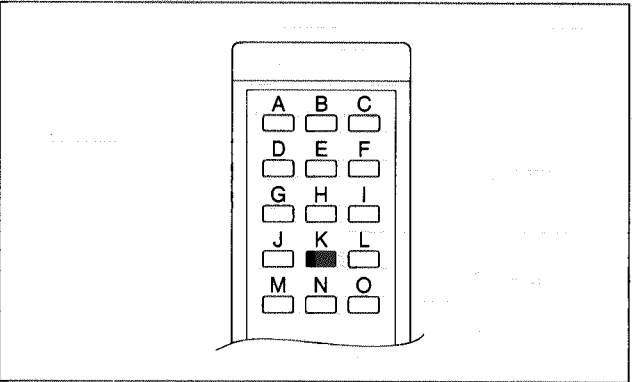


Fig. 3-3-1 Presetting unit

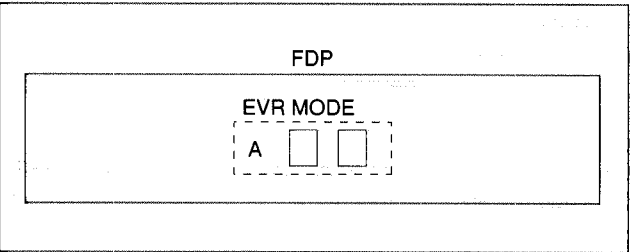


Fig. 3-3-2 EVR mode

3.3.1 EE Y level

Signal	• Colour bar
Mode	• EE
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

- (1) Connect an oscilloscope to Y OUT TERMINAL.
- (2) Set the EVR mode by pressing the “K” button of the pre-setting unit.
- (3) Set “A : 11” by twice pressing 1 button of the remote controller.

- (4) Adjust the CH "+" or "-" buttons for 1.00 ± 0.03 Vp-p. (See Fig. 3-3-3.)
- (5) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.

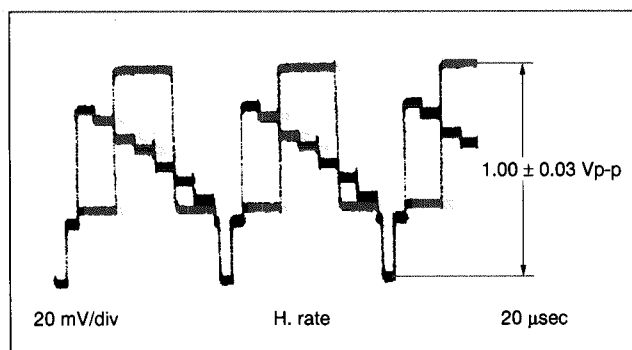


Fig. 3-3-3 EE Y level

3.3.2 SP/LP REC colour level

Signal	• Alignment tape [MH-2H] • Colour bar
Mode	• PB • REC → PB : SP/LP • S-VHS
Equipment	• Oscilloscope
Measurement point	• PB COLOUR
Trigger slope (-)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller • LPF fixture [PTU93006]
EVR mode	• A : 2
Specification	• "B" × $150 \pm 5\%$: SP • "B" × $110 \pm 5\%$: LP

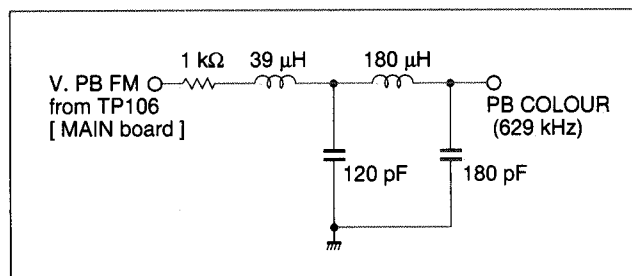


Fig. 3-3-4 LPF

- (1) Connect an oscilloscope to PB COLOUR of a LPF (refer to Fig. 3-3-4) and TP111 (negative slope) on the MAIN board.
- (2) Playback the SP colour bar signal of the MH-2H alignment tape.
- (3) Adjust by pressing the CH "+" or "-" buttons of the Front panel for maximum level of the color waveform and make a note of the higher colour level "B".
- (4) Press the STOP/EJECT button and eject the MH-2H alignment tape.
- (5) Set the EVR mode by pressing the "K" button of the presetting unit.

- (6) Set "A : 2" by pressing 2 button of the remote controller.
- (7) Before recording, adjust the CH "+" or "-" buttons of the remote controller so that the higher level channel becomes $150 \pm 5\%$: SP ($110 \pm 5\%$: LP) of the note "B" level during playback as shown in Fig. 3-3-5.
- (8) Record a colour bar signal in the SP (LP) mode, and playback the recorded colour bar signal.
- (9) Set the normal VCR mode by pressing the "K" button again so adjustment data is memorized.

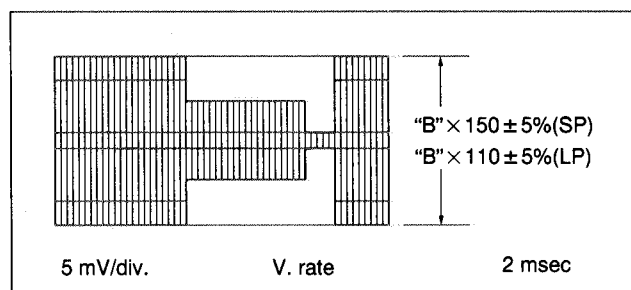


Fig. 3-3-5 REC colour level

3.3.3 PB Y level (S-VHS/VHS)

Signal	• Colour bar
Mode	• REC → PB : SP • S-VHS/VHS
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 11
Specification	• 1.00 ± 0.03 Vp-p (terminated)

- (1) Connect an oscilloscope to Y OUT TERMINAL.
- (2) Set the EVR mode by pressing the "K" button of the presetting unit.
- (3) Set "A : 11" by twice pressing 1 button of the remote controller.
- (4) Record a colour bar signal in the S-VHS mode, and playback the recorded colour bar signal.
- (5) Adjust the CH "+" or "-" buttons for 1.00 ± 0.03 Vp-p as shown in Fig. 3-3-6.
- (6) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.
- (7) Repeat steps (1) to (6) in the VHS mode.

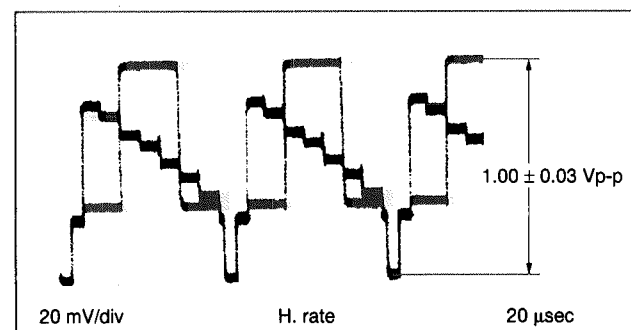


Fig. 3-3-6 PB Y level

3.3.4 S-VHS VIDEO EQ

Signal	• S INPUT • Video sweep
Mode	• REC → PB : SP/LP • S-VHS • Picture Control REC : Normal PB : Edit
Equipment	• Oscilloscope
Measurement point	• Y OUT TERMINAL (75 ohm TERMINATION)
Trigger slope (–)	• TP111 (D.FF)
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
EVR mode	• A : 3
Specification	• 3.6 ± 0.4 scale : SP • 3.2 ± 0.4 scale : LP

- (1) Connect an oscilloscope to Y OUT TERMINAL and TP111 (negative slope).
- (2) Record a video sweep signal in the S-VHS SP mode, then play it back.
- (3) Set the EVR mode by pressing the "K" button of the pre-setting unit.
- (4) Set "A : 3" by pressing 3 button of the remote controller.
- (5) When assuming the 100 KHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "+" or "-" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.6 ± 0.4 scale (-1 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)
- (6) Set the normal VCR mode by pressing the "K" button of the presetting unit again so adjustment data is memorized.
- (7) Carry out the step (3) and (4) in the S-VHS LP mode.
- (8) When assuming the 100 kHz sweep signal marker on the bigger channel is four scales on the oscilloscope, adjust the CH "+" or "-" buttons on the front panel or the Digit-key remote controller so that the 3 MHz is set at 3.2 ± 0.4 scale (-2 ± 1.0 dB) while observing Y OUT of the S output. (See Fig. 3-3-7.)

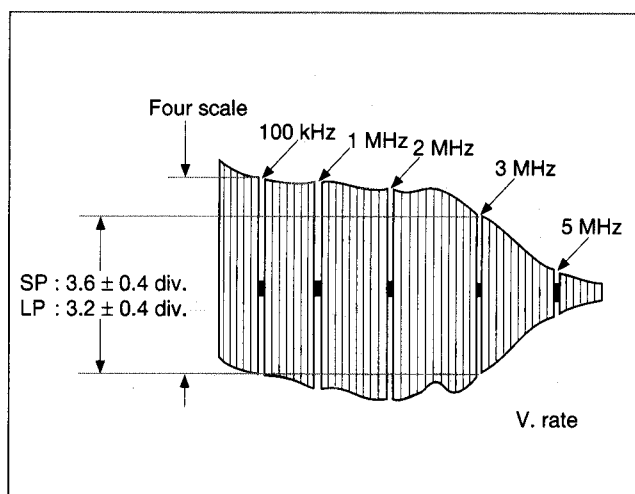


Fig. 3-3-7 S-VHS VIDEO EQ

3.3.5 D/A level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• CN1003-3 pin (Y OUT) [3D SVHS board]
Adjustment part	• VR1401 (D/A LEVEL) [3D SVHS board]
Specification (NOTE)	• 2.05 Vp-p (REFERENCE VALUE)

- (1) Connect the oscilloscope to the CN1003-3 pin(Y OUT) on the 3D SVHS board.
- (2) Confirm the Y level value during external S input.
- (3) Switch the input signal to the external input, then adjust the VR1401 on the 3D SVHS board so that the Y level value becomes the same level value which was confirmed at the step (2).

Note: • The adjusted value of 2.05 Vp-p is a reference value which should be obtained during external S input. The value should be adjusted to the one which was confirmed at step (2).

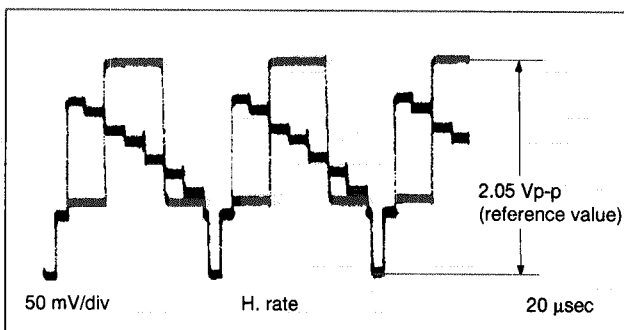


Fig. 3-3-8 D/A LEVEL

3.3.6 Pilot burst level

Signal	• Colour bar
Mode	• EE • S-VHS
Equipment	• Oscilloscope
Measurement point	• TP1001 (FSC PHASE) [3D SVHS board]
Adjustment part	• VR1002 (P. BURST LEVEL) [3D SVHS board]
Specification	• "B" x $110 \pm 10\%$

- (1) Connect the oscilloscope to the TP1001 (FSC PHASE) on the 3D SVHS board.
- (2) Load an S-VHS tape then set the unit to the S-VHS EE mode.
- (3) Adjust the VR1002 of the 3D SVHS so that the pilot burst level becomes "B" x $110 \pm 10\%$ against the value of the burst level "B".

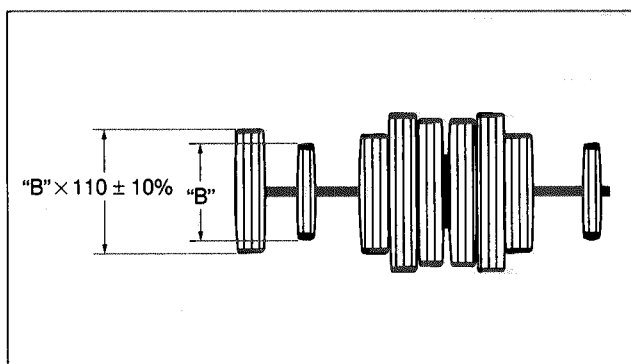


Fig. 3-3-9 PILOT BURST LEVEL

3.3.7 Auto picture

Signal	• Monoscope
Mode	• REC → PB : SP/LP • S-VHS
Adjustment tool	• Presetting unit [PTU94008]
Specification	• STOP mode

Note: • Use only the "L" button, depressing other buttons during adjustment may cause adjustment errors.

- (1) Record a monoscope signal in the SP mode.
- (2) Playback the recorded signal.
- (3) Press the "L" button of the presetting unit during playback.
- (4) Confirm that the VCR will go into the STOP mode.
- (5) Repeat steps (2) to (4) in the LP mode.

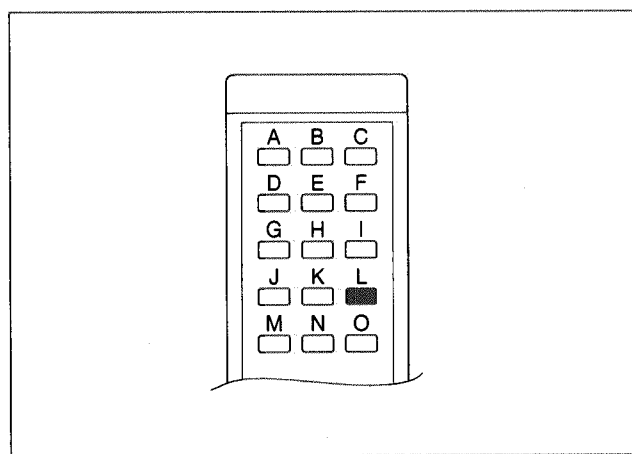


Fig. 3-3-10 Presetting unit

3.4 ON SCREEN CIRCUIT

Note: • Set the VCR to the mode A by the remote controller.

3.4.1 Character position

Signal	• No signal
Mode	• EE
Equipment	• TV-monitor
Adjustment tool	• Presetting unit [PTU94008] • Digit-key remote controller
Specification	• Character centre

Note: • Use only the "H" button, depressing other buttons during adjustment may cause adjustment errors.

- (1) Press the MENU button and display the on screen character.
- (2) Observe the TV-monitor and centre position of character by pressing the "H" button of the presetting unit.

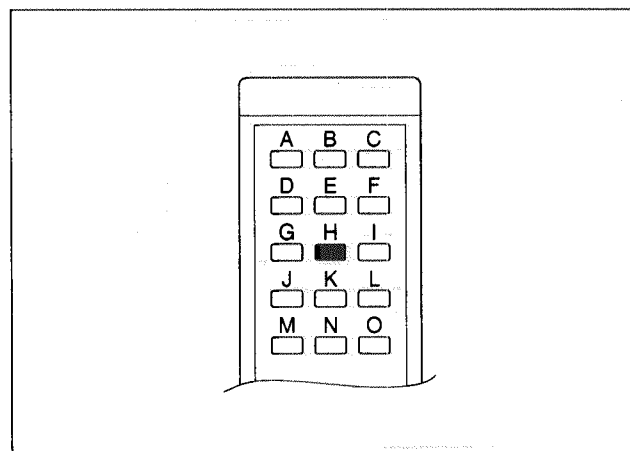


Fig. 3-4-1 Presetting unit

3.5 AUDIO CIRCUIT

- Notes:**
- Unless otherwise specified, all measurement points and adjustment parts are located on the MAIN BOARD.
 - This adjustment should be done after the video circuit SP and LP REC colour level are adjusted.
 - GND(Ground) should be taken from the tuner board shield.

3.5.1 REC FM level

Signal	•AUX •VIDEO : Colour bar •AUDIO : No signal
Mode	•REC → PB : LP •S-VHS •B.E.S.T : OFF
Equipment	•Oscilloscope
Measurement point	•TP2253 (A. PB FM)
Trigger slope (-)	•TP111 (D. FF)
Adjustment part	•VR2251 (A. REC. FM)
Specification	• 600 ± 100 mVp-p

- (1) Connect an oscilloscope to TP2253.
- (2) Record a colour bar signal without an audio signal in the S-VHS LP mode then playback.
- (3) Adjust VR2251 for 600 ± 100 mVp-p playback level of higher channel level before recording.
- (4) Confirm that the lower channel level is more than 450 mVp-p.

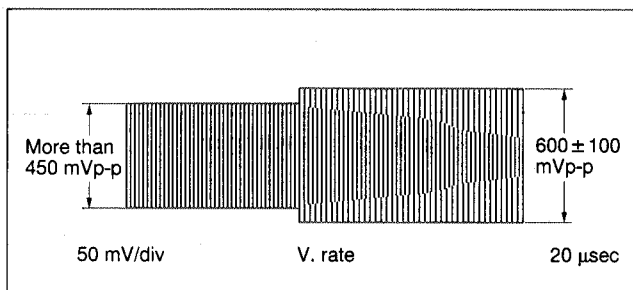


Fig. 3-5-1 Audio REC FM level

3.6 SYSCON CIRCUIT

- Notes:**
- Unless otherwise specified, all measurement points and adjustment parts are located on the MAIN BOARD.
 - When perform this adjustment, remove the MECHANISM assembly.

3.6.1 Timer clock

Signal	•No signal
Mode	•EE
Equipment	•Frequency counter
Measurement point	•IC3001-PIN61
Adjustment part	•C3025 (TIMER CLOCK)
Specification	•1024.008 ± 0.001 Hz [976.5549 ± 0.0010 μsec.]

- (1) Connect the frequency counter to IC3001-PIN61.
- (2) Connect the short wire between IC3001-PIN24 and Vcc(5V).
- (3) Short the leads of capacitor C3026 once in order to re-set IC3001.
- (4) Disconnect the short wire between IC3001-PIN24 and Vcc then connect it again.
- (5) Adjust C3025 trimmer capacitor so that the output from IC3001-PIN61 falls within 1024.008 ± 0.001 Hz (976.5549 ± 0.0010 μsec.) range.

SECTION 4 CHARTS AND DIAGRAMS

NOTES OF SCHEMATIC DIAGRAM

Safety precautions

The Components identified by the symbol  are critical for safety. For continued safety, replace safety critical components only with manufacturer's recommended parts.

1. Units of components on the schematic diagram

Unless otherwise specified.

1) All resistance values are in ohm, 1/6 W, 1/8 W (refer to parts list).

Chip resistors are 1/16 W.

K: K Ω (1000 Ω), M: M Ω (1000K Ω)

2) All capacitance values are in μ F, (P: PF).

3) All inductance values are in μ H, (m: mH).

4) All diodes are 1SS133, MA165 or 1N4148M (refer to parts list).

2. Indications of control voltage

AUX : Active at high

AUX or AUX(L) : Active at low

3. Interpreting Connector indications



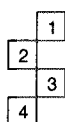
Removable connector



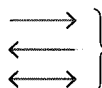
Wire soldered directly on board



Non-removable Board connector



Board to Board



Connected pattern on board
The arrows indicate signal path

4. Voltage measurement

1) Video circuits

REC : Colour bar signal in SP mode, normal VHS mode

PB : Alignment tape, colour bar SP mode, normal VHS mode

— : Unmeasurable or unnecessary to measure

2) Audio circuits

REC : 1KHz, -8 dBs sine wave signal in SP mode, Normal VHS mode

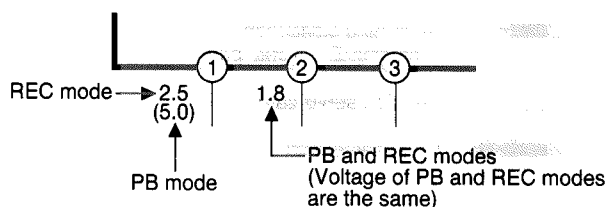
PB : REC then playback it

3) Movie Camera circuits

Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode

4) Indication on schematic diagram

Voltage Indications for REC and PB mode on the schematic diagram are as shown below.



Note: If the voltages are not indicated on the schematic diagram, refer to the voltage charts.

5. Waveform measurement

1) Video circuits

REC : Colour bar signal in SP mode, normal VHS mode

PB : Alignment tape, colour bar SP mode, normal VHS mode

2) Audio circuits

REC : 1KHz, -8 dBs sine wave signal in SP mode, normal VHS mode

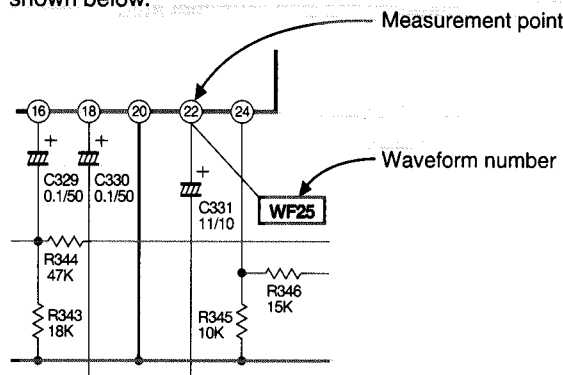
PB : REC then playback it

3) Movie Camera circuits

Measured using a correctly illuminated gray scale or colour bar test charts in the E-E mode

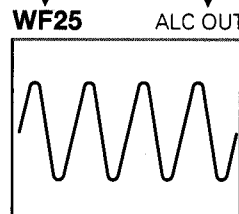
4) Indication on schematic diagram

Waveform indications on the schematic diagram are as shown below.



5) Waveform indications

Waveform number Waveform name or measurement point



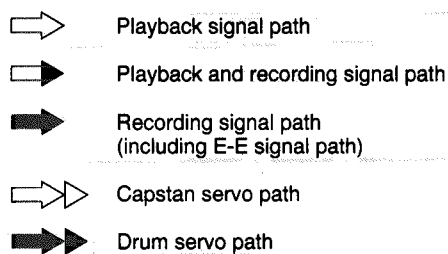
Level : 1.2 Vp-p
50 mV/2 msec/DIV

Oscilloscope Volts and Time/Division, Probe 10 : 1

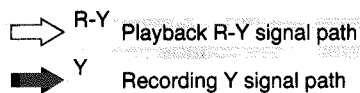
Mode : REC or PB modes

6. Signal path Symbols

The arrows indicate the signal path as follows.

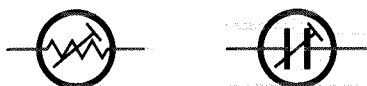


(Example)



7. Indication of the parts for adjustments

The parts for the adjustments are surrounded with the circle as shown below.



8. Indication of the parts not mounted on the circuit board

"OPEN" is indicated by the parts not mounted on the circuit board.



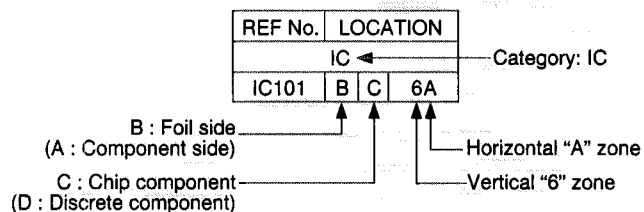
CIRCUIT BOARD NOTES

1. Foil and Component sides

- 1) Foil side (B side) :
Parts on the foil side seen from foil face (pattern face) are indicated.
- 2) Component side (A side) :
Parts on the component side seen from component face (parts face) indicated.

2. Parts location guides

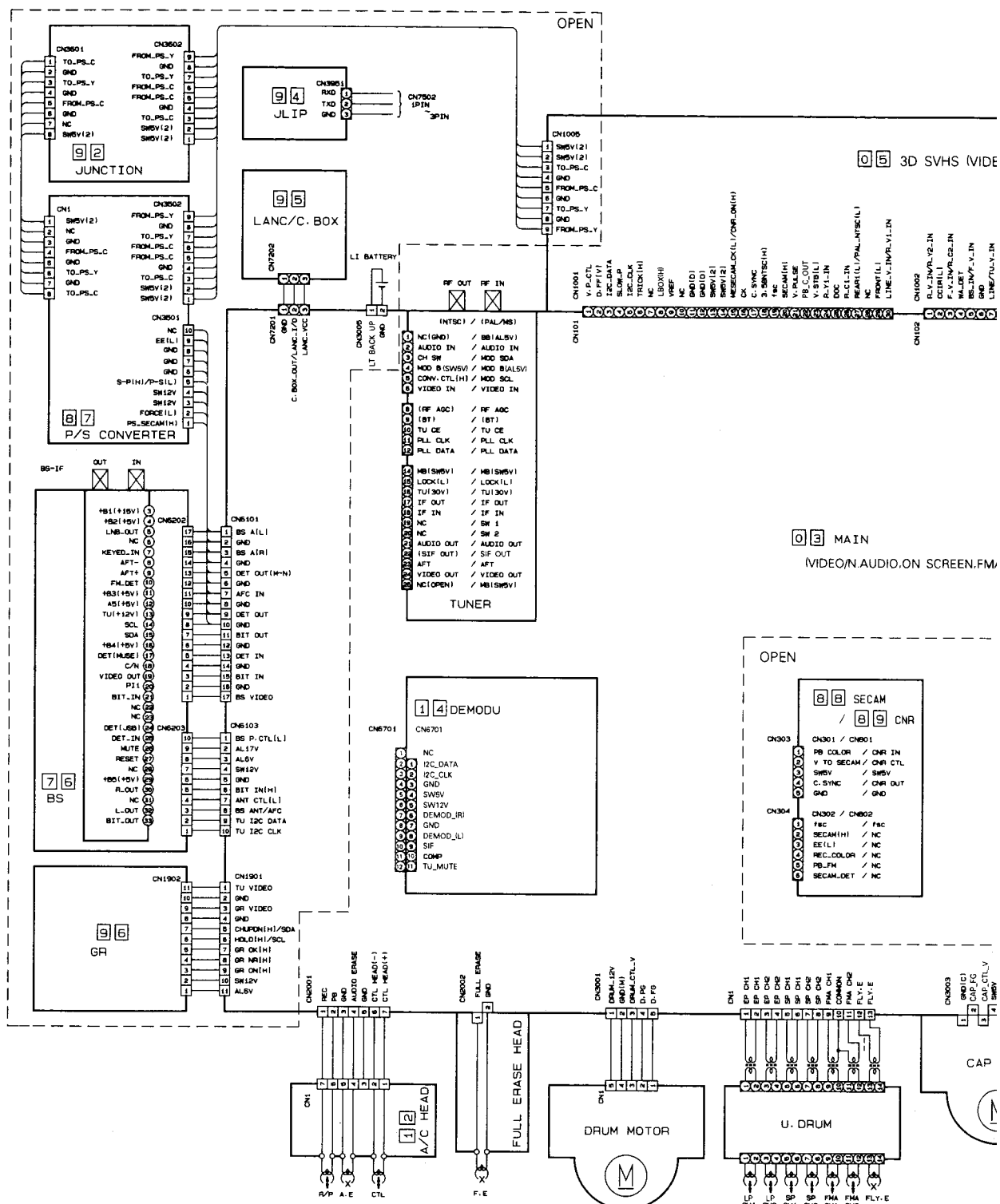
Parts location are indicated by guide scale on the circuit board.



Note:

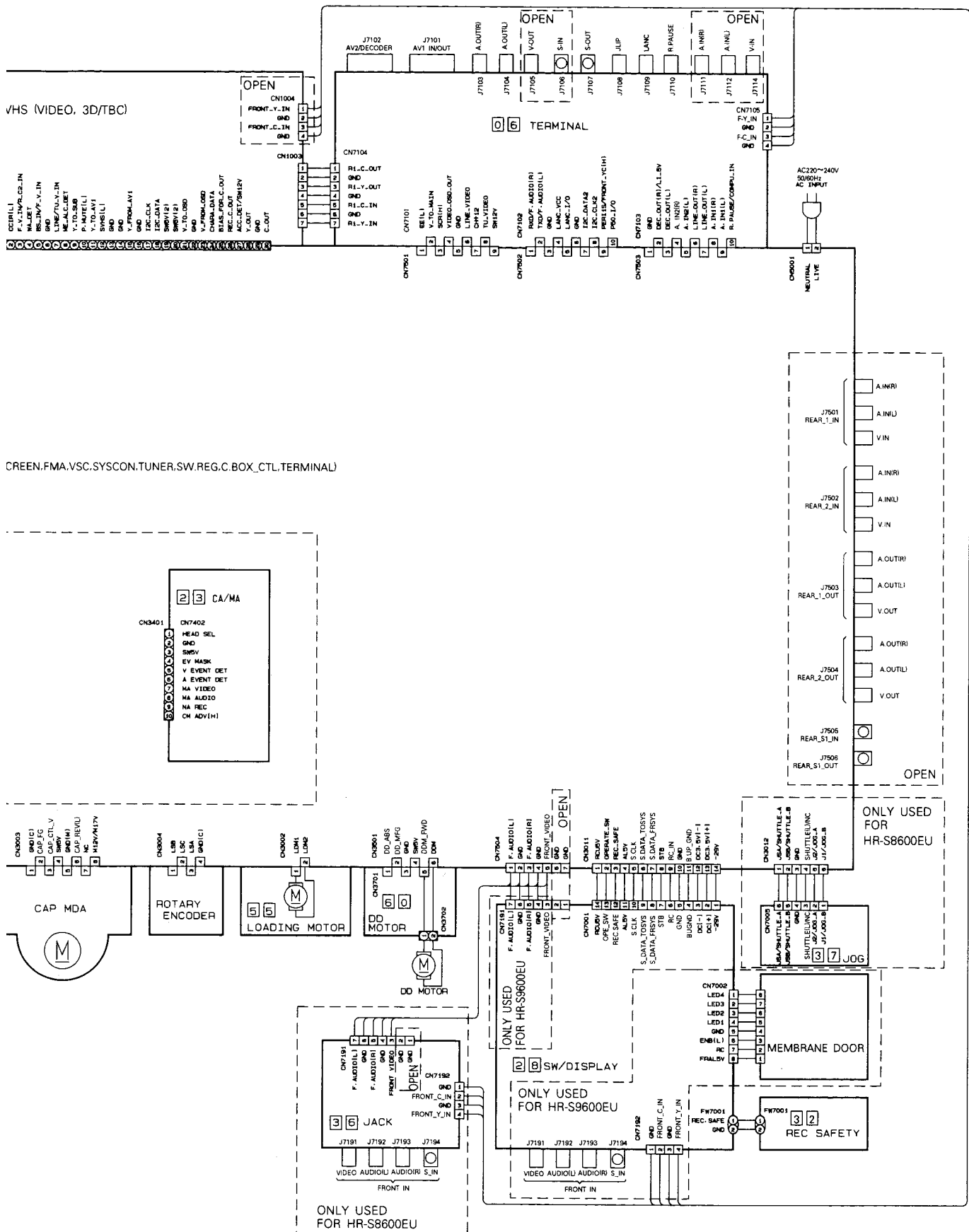
For general information in service manual, please refer to the Service Manual of GENERAL INFORMATION Edition 4 No. 82054D (January 1994).

4.1 BOARD INTERCONNECTIONS

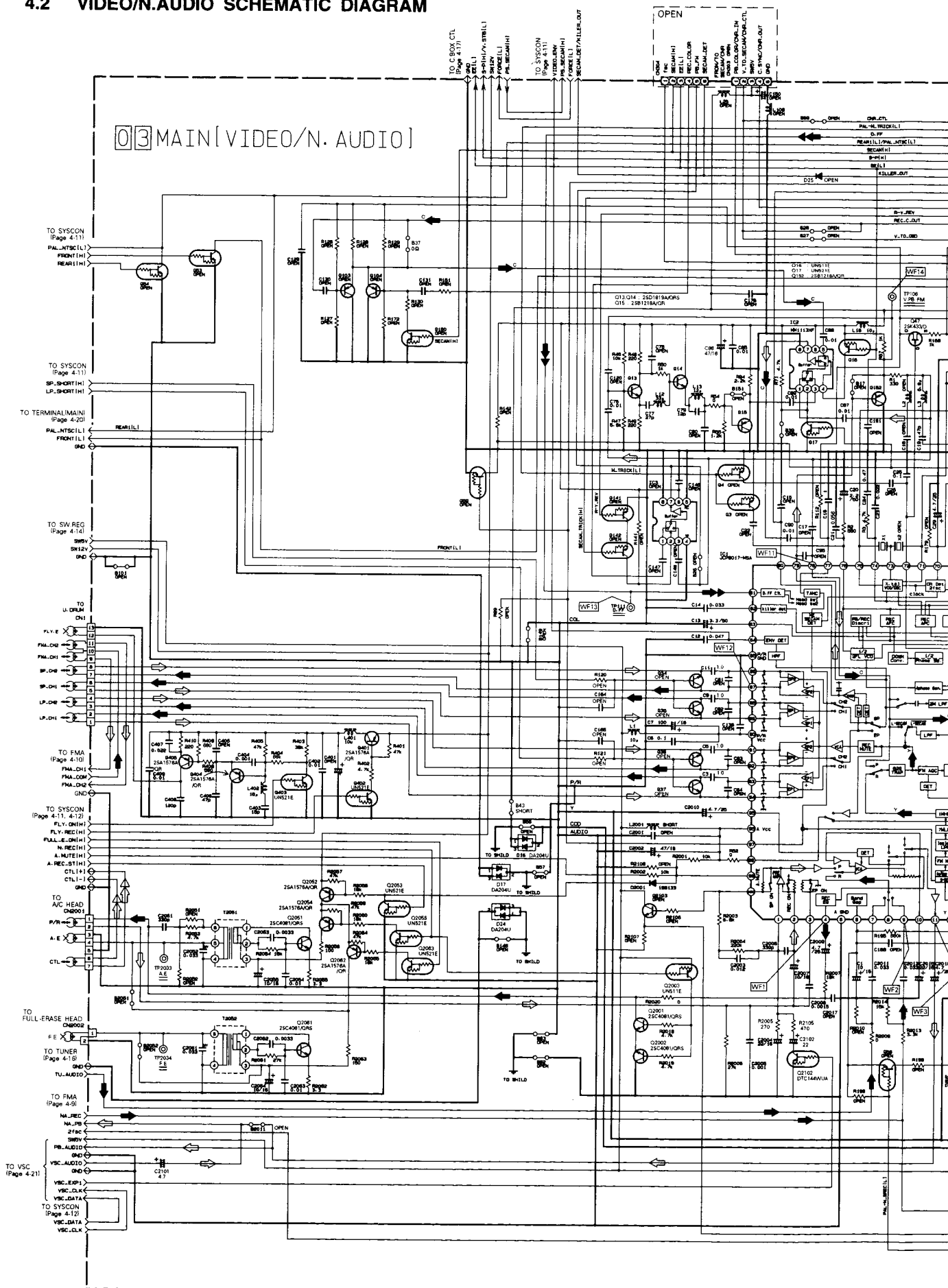


6 0	DD MOTOR
5 5	LOADING MOTOR
3 7	JOB
3 6	JACK
3 2	REC SAFETY
2 8	SW/DISPLAY
1 4	DEMODO
1 2	A/C HEAD
0 6	TERMINAL
0 5	3D SVHS
0 3	MAIN
NO	NAME

VHS (VIDEO, 3D/TBC)

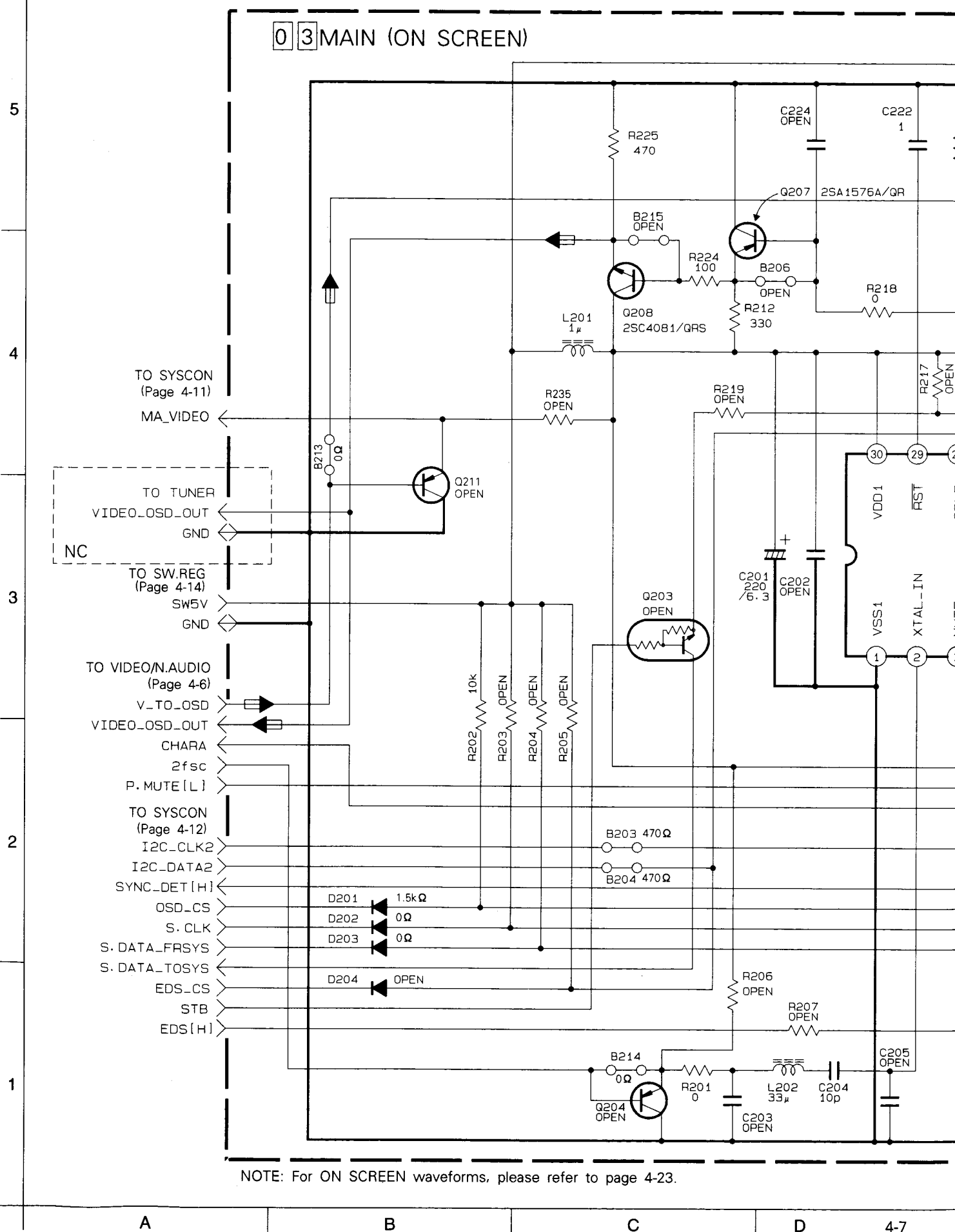


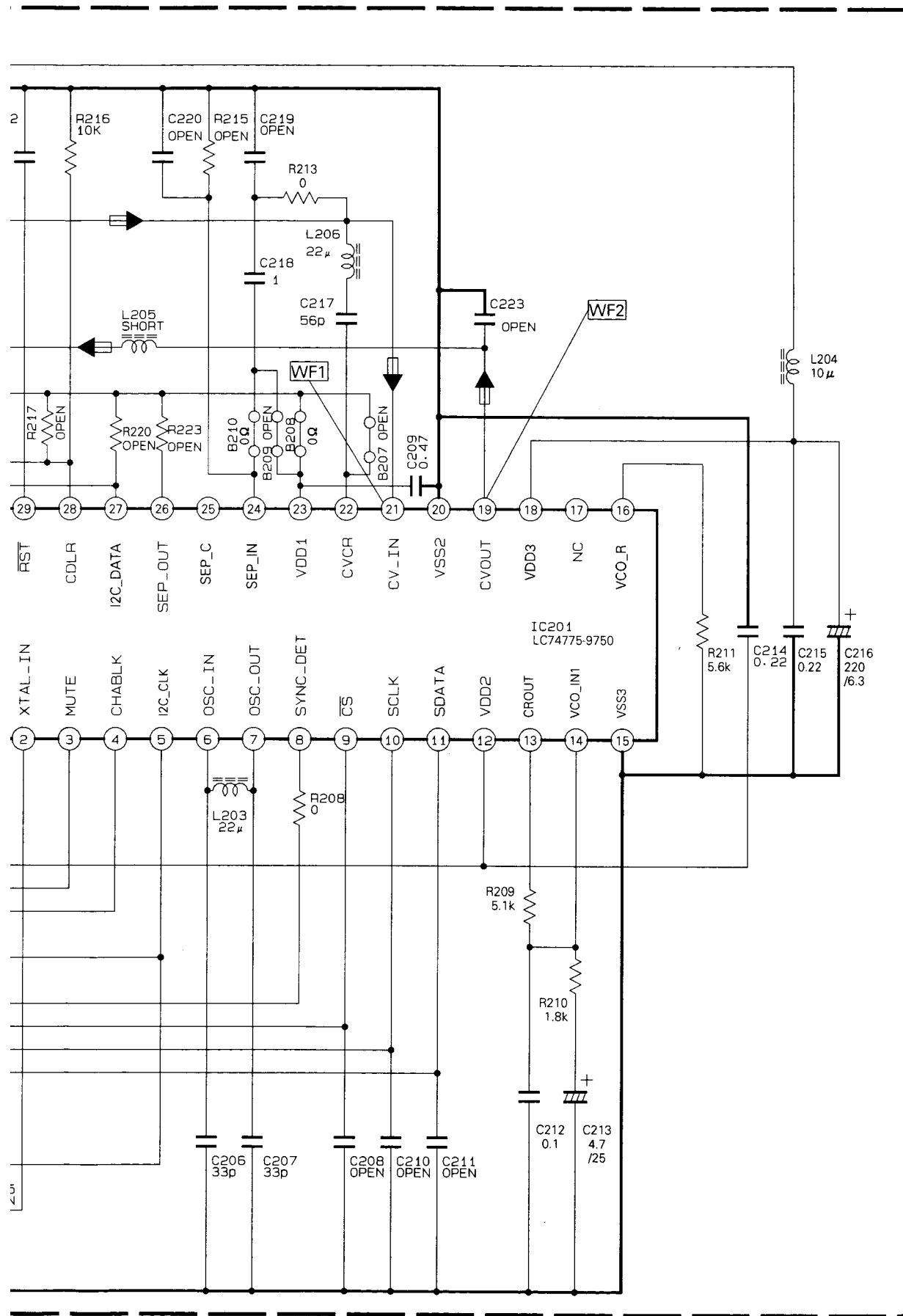
4.2 VIDEO/N.AUDIO SCHEMATIC DIAGRAM



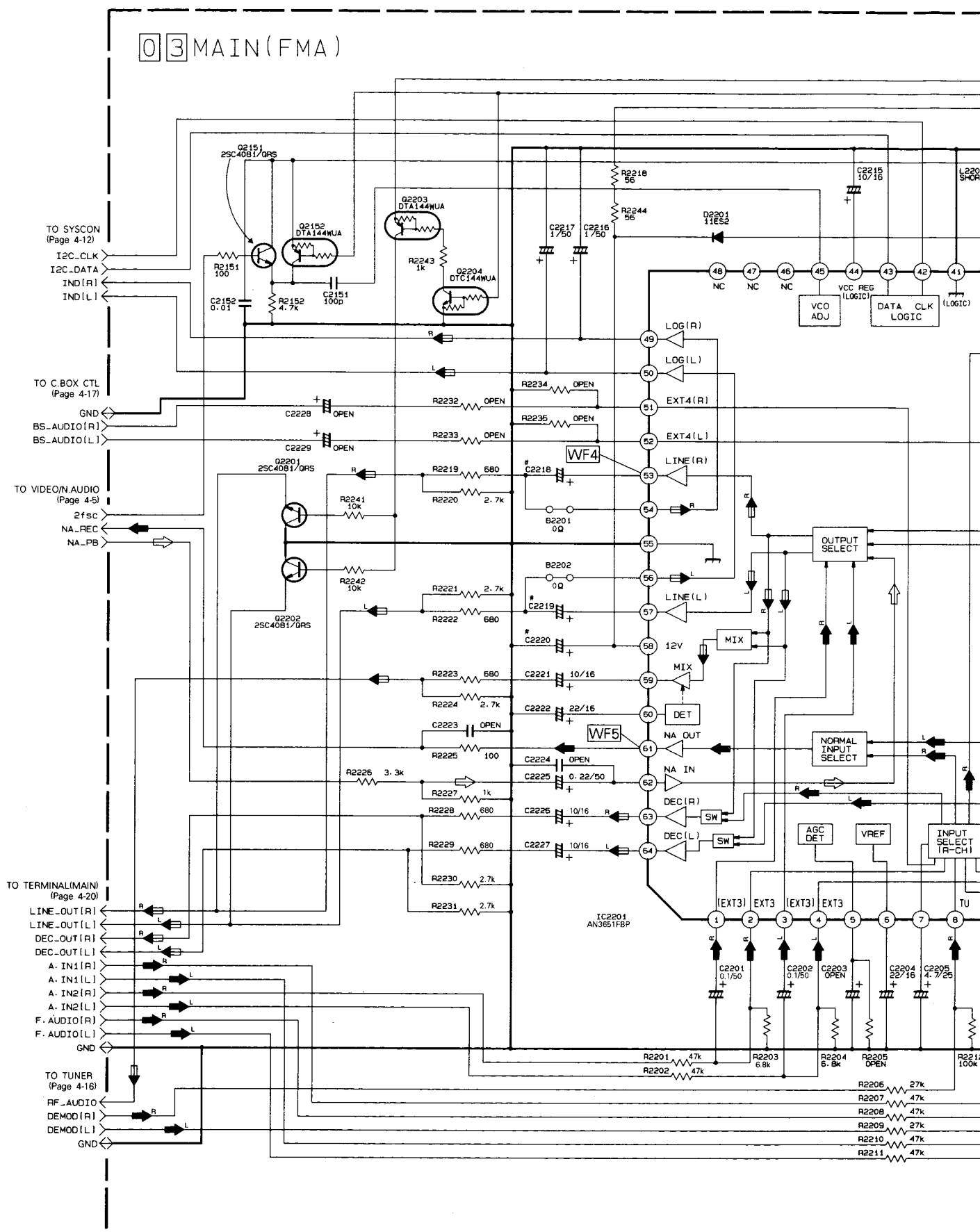
NOTE : For VIDEO/N.AUDIO waveforms, please refer to page 4-23.

4.3 ON SCREEN SCHEMATIC DIAGRAM



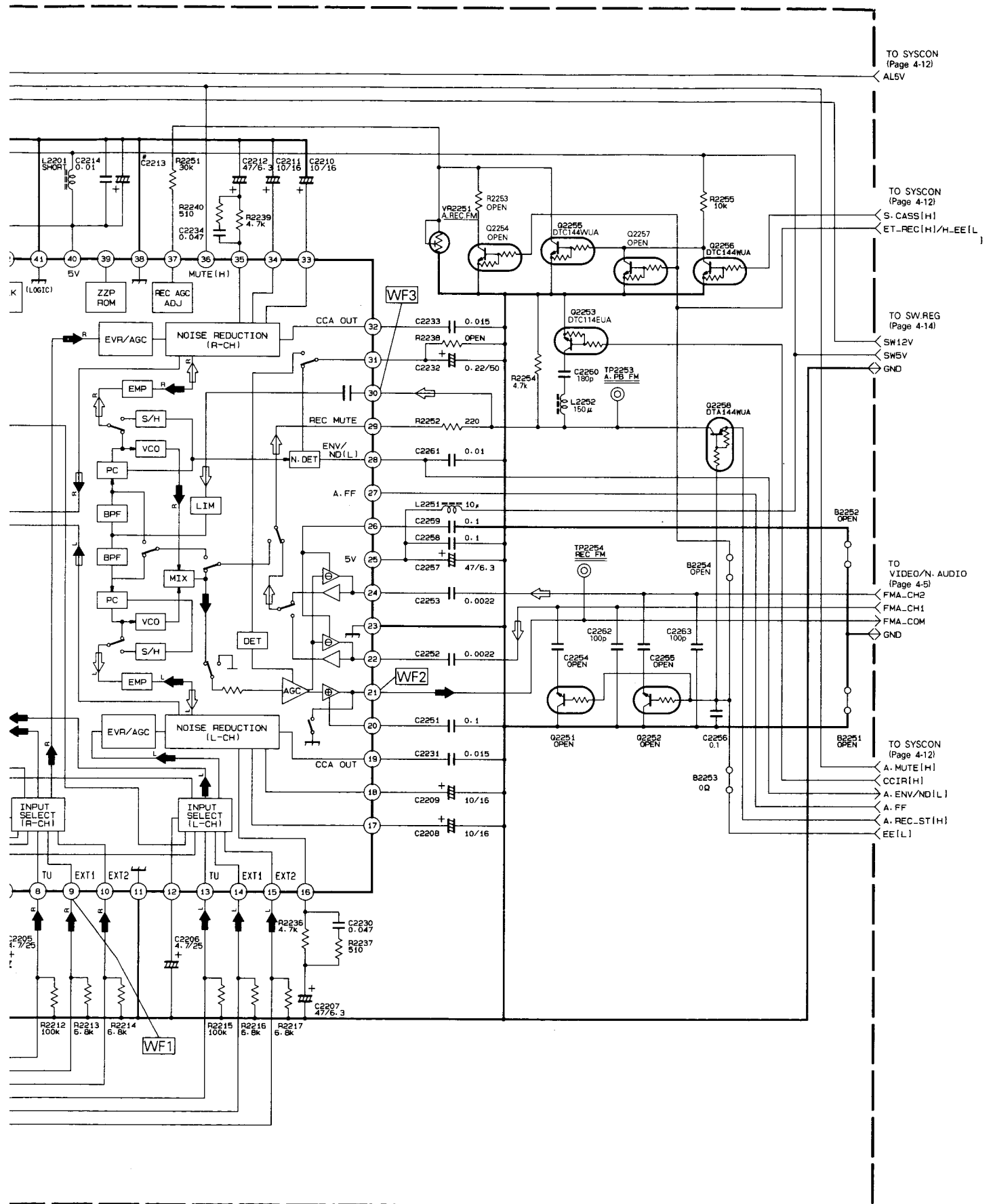


4.4 FMA SCHEMATIC DIAGRAM

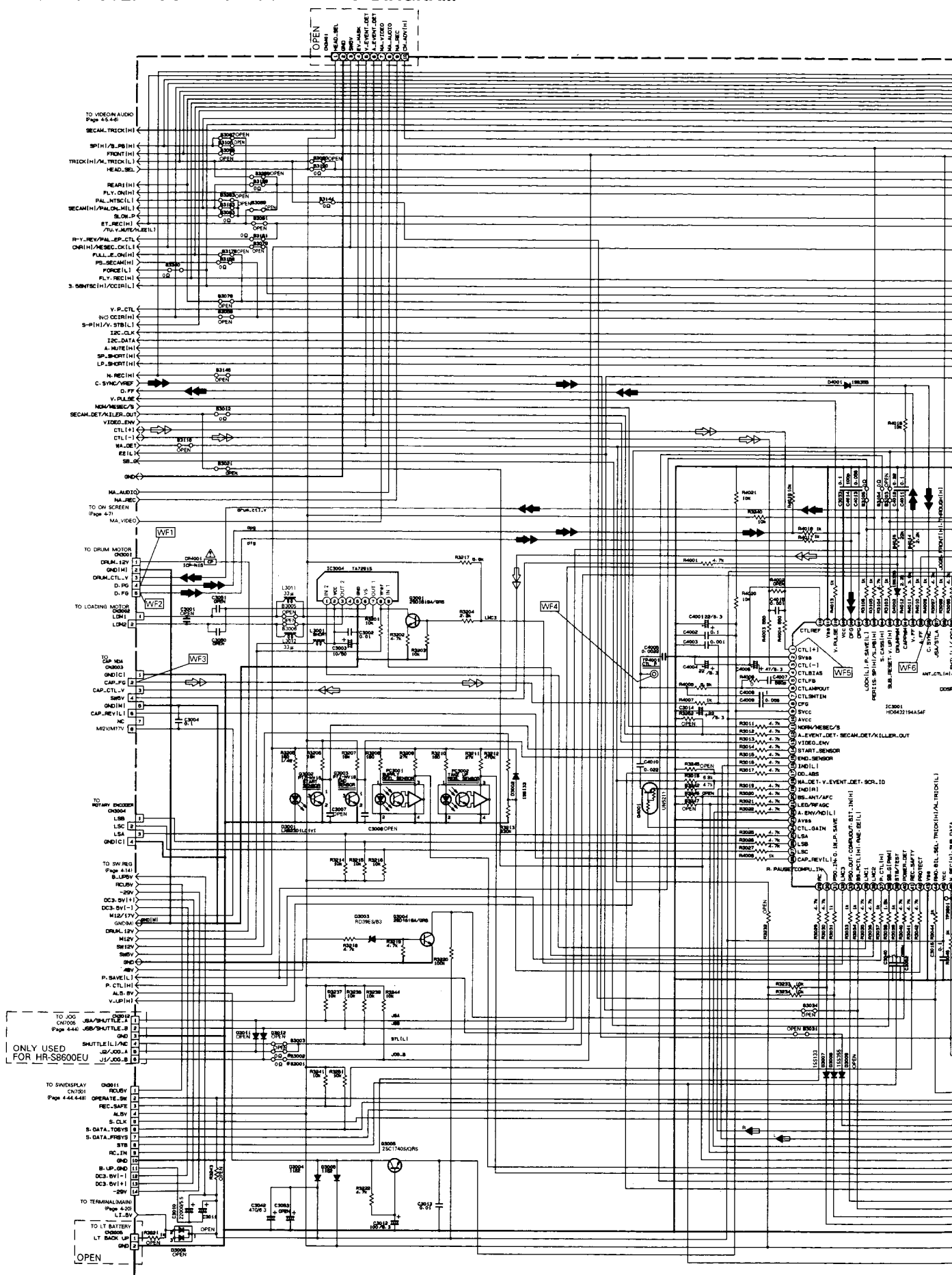


NOTES: 1. For FMA waveforms, please refer to page 4-23.
2. Comparison chart of models & marks(#).

REF.NO.		C2213	C2218 C2219	C2220
MODEL	HR-S8600EU	47 μ F/6.3V	10 μ F/16V	47 μ F/16V
	HR-S9600EU	47 μ F/25V	22 μ F/25V	47 μ F/25V



4.5 SYSTEM CONTROL SCHEMATIC DIAGRAM



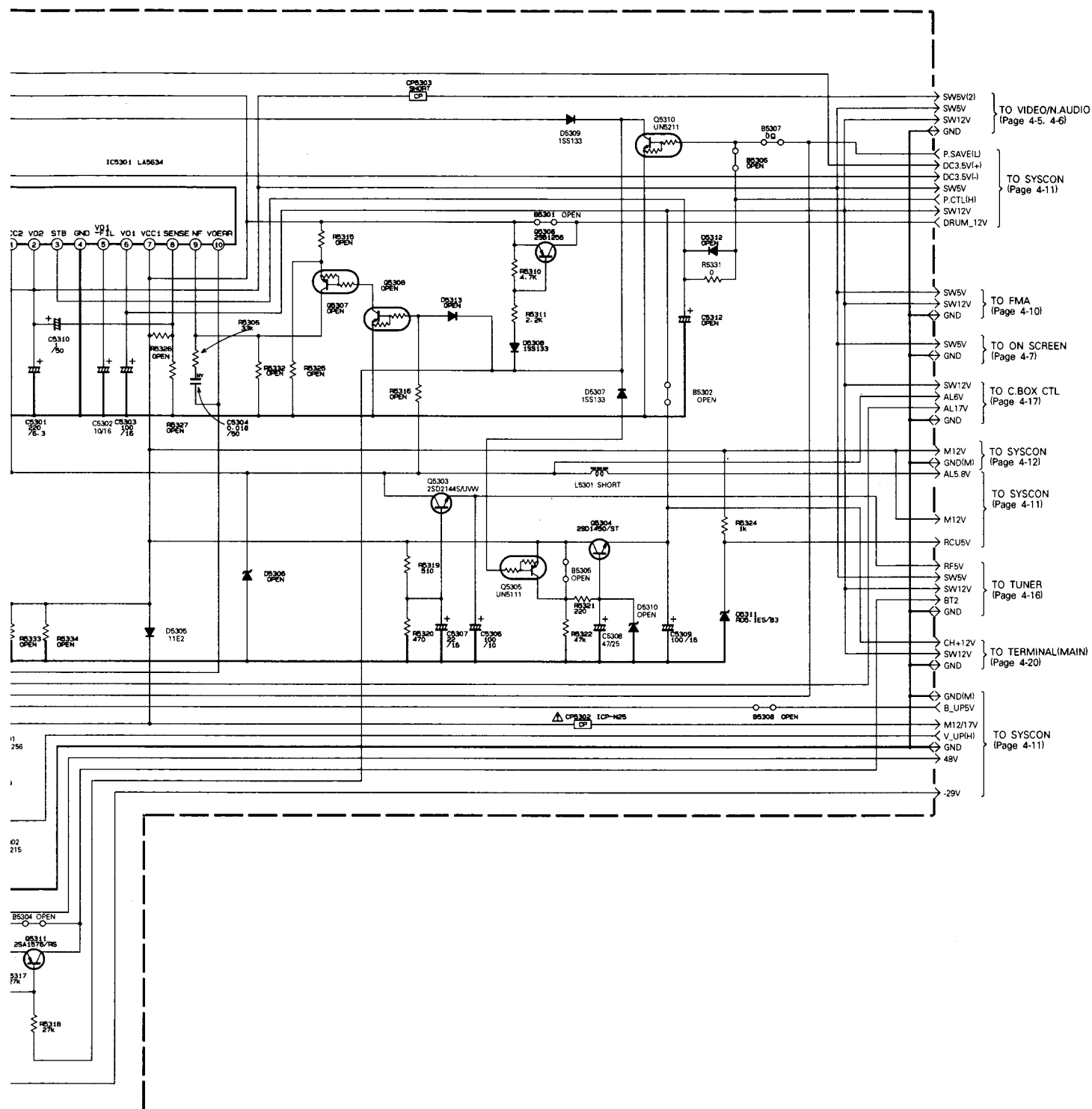
NOTES: 1. For SYSCON waveforms, please refer to page 4-23.

3. The SYSTEM CONTROL circuit of this model has an automatic recognition about the ON/OFF control

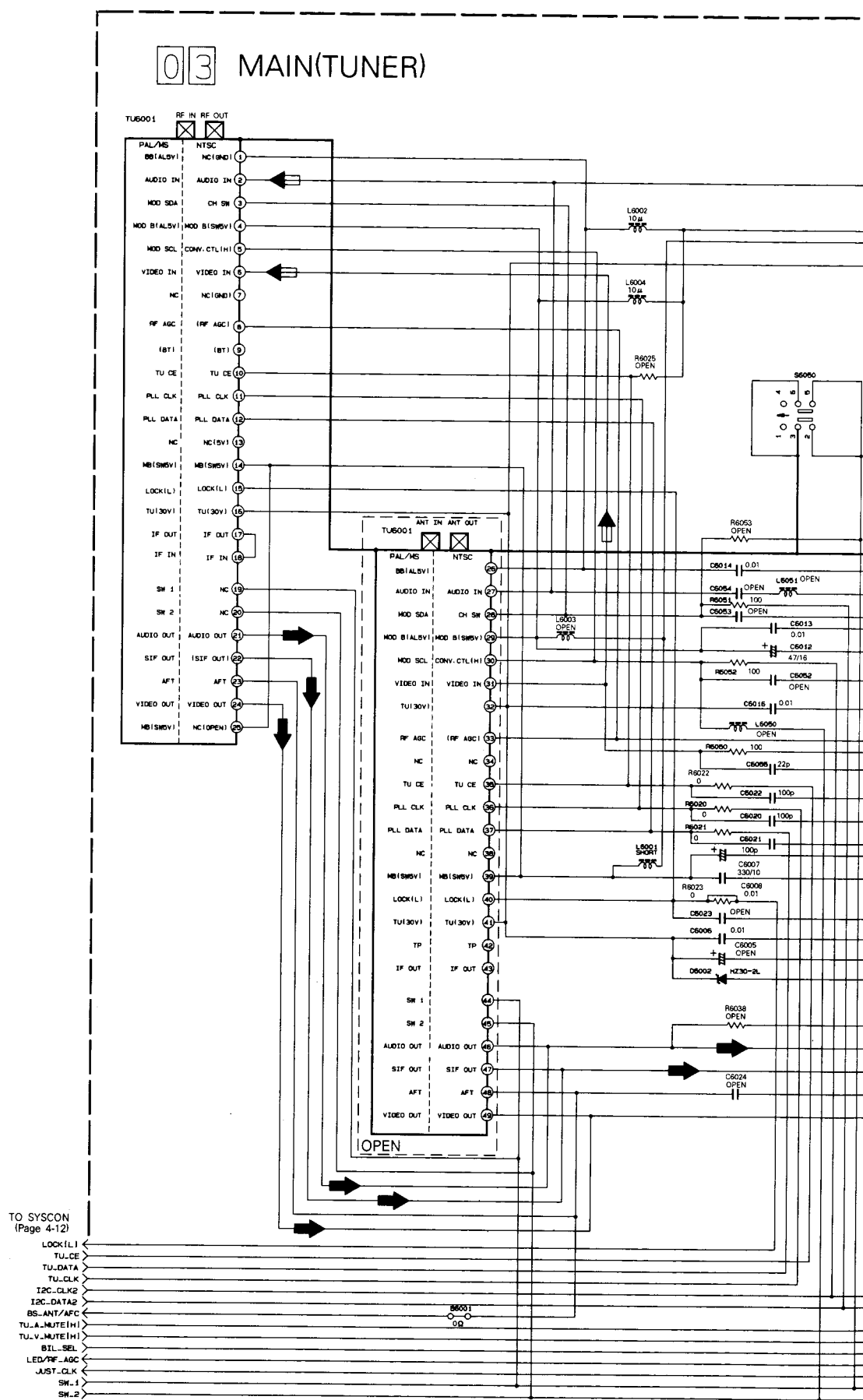
.3. The parts (B3001,B3002,B3063) marked with (#) are used only with HR-S8600EU.

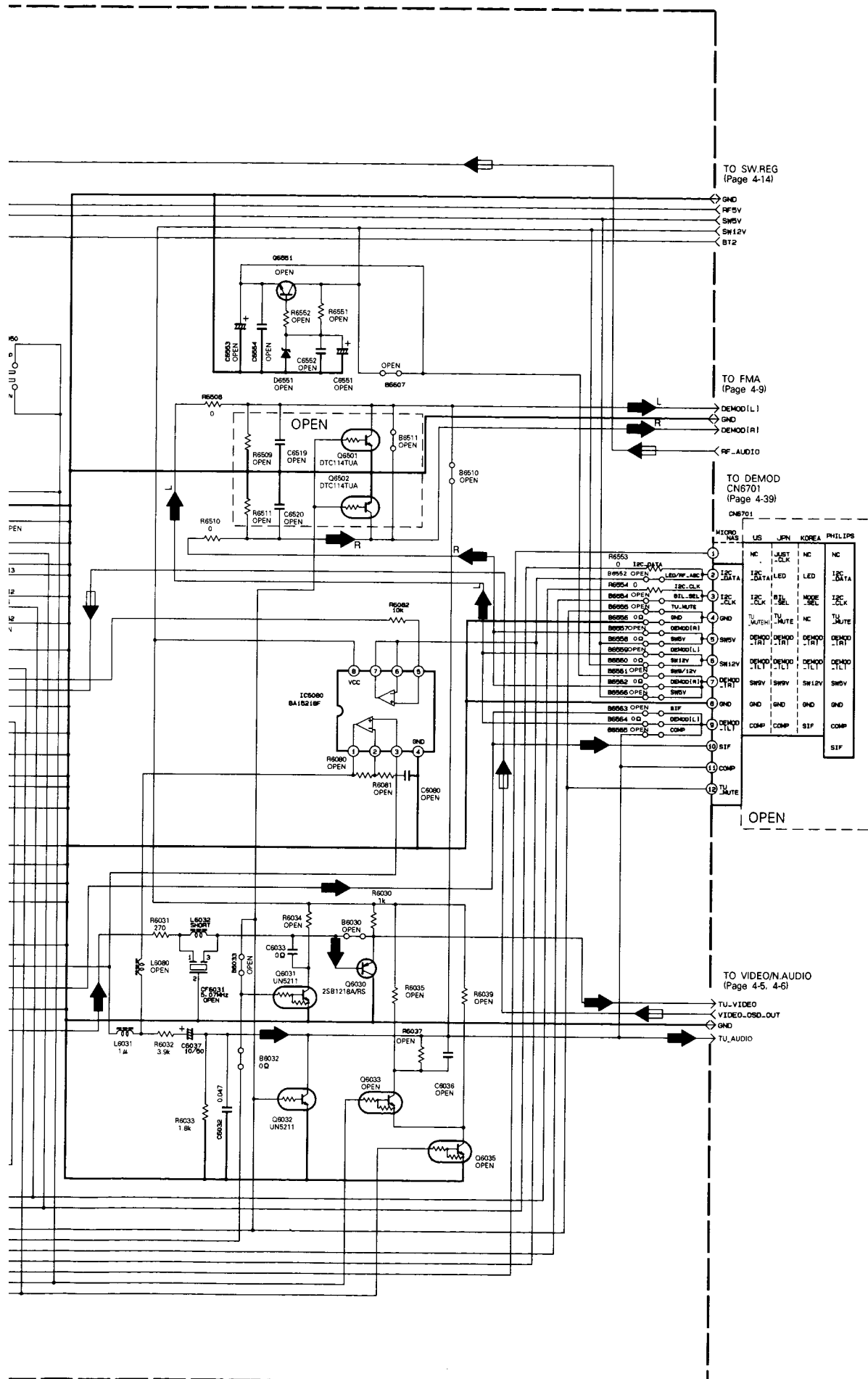
5
4
3
2
1



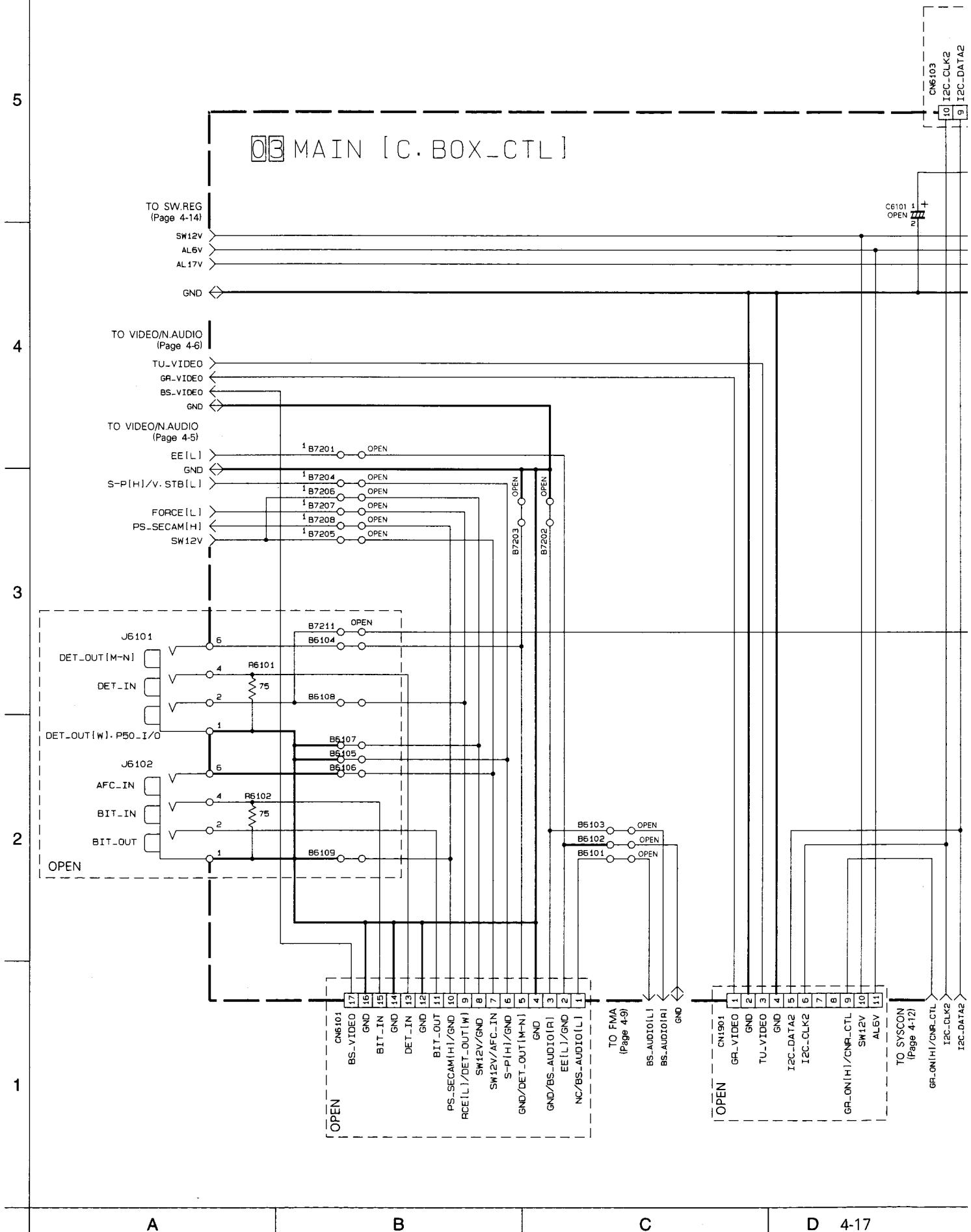


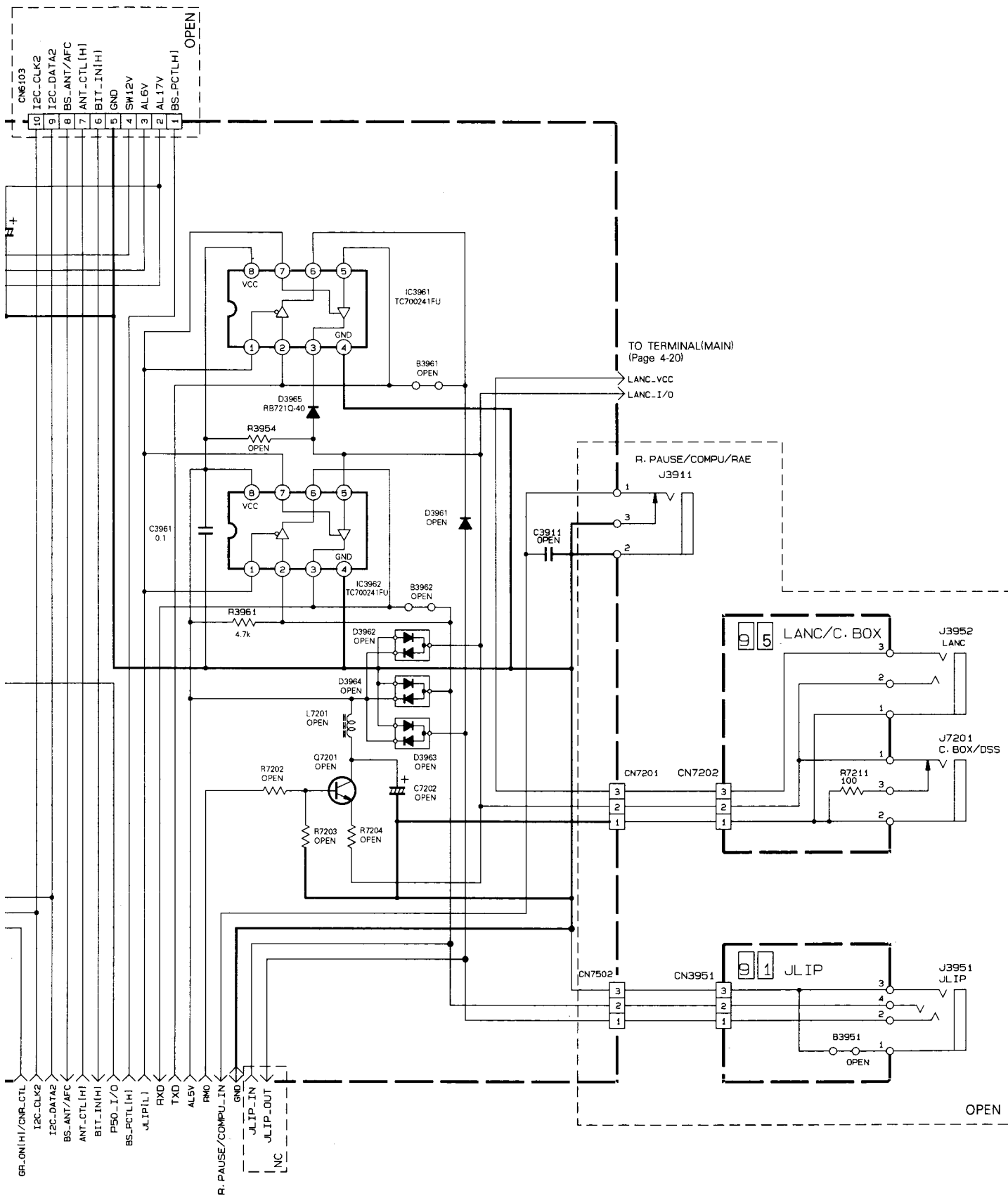
4.7 TUNER SCHEMATIC DIAGRAM



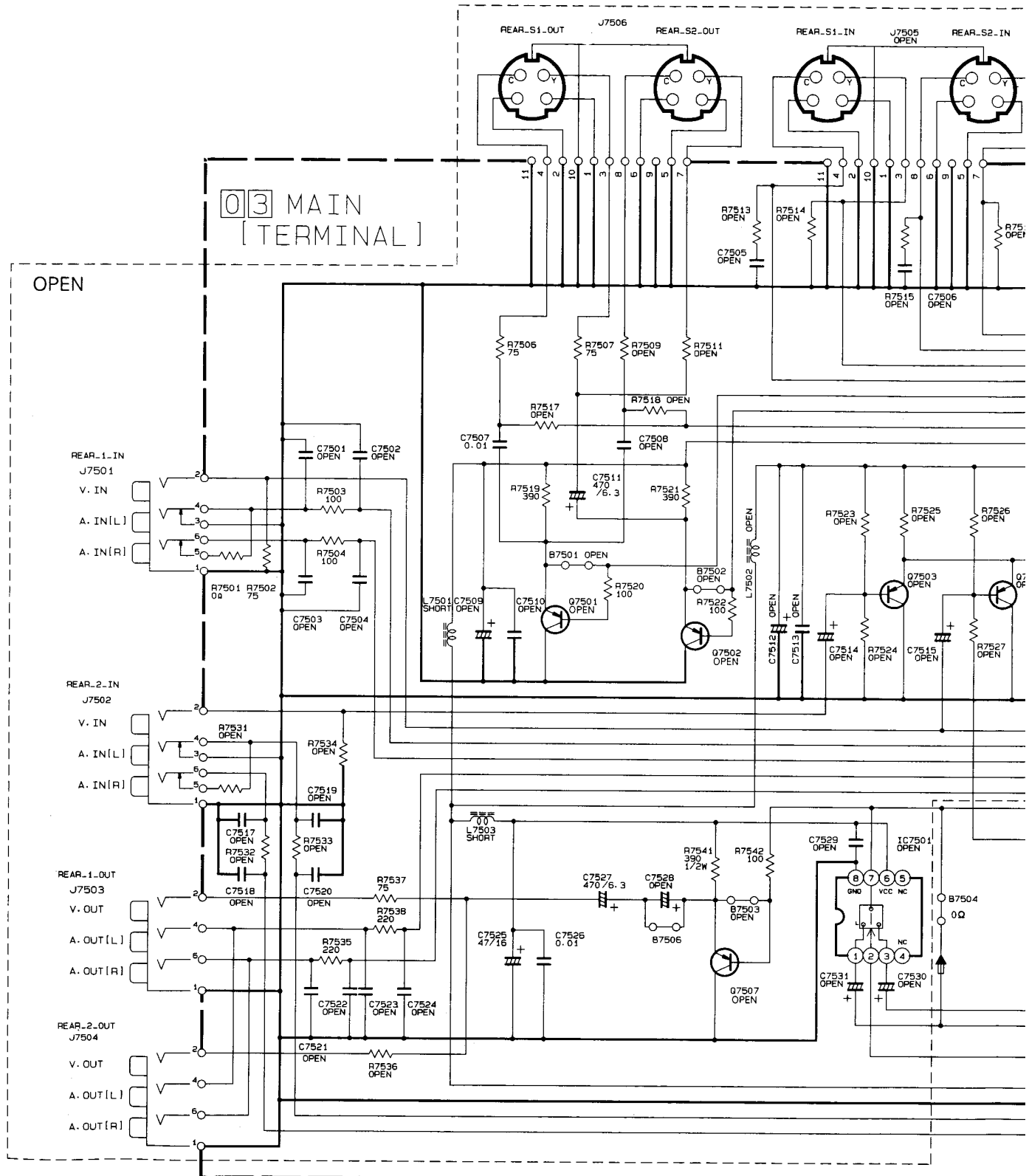


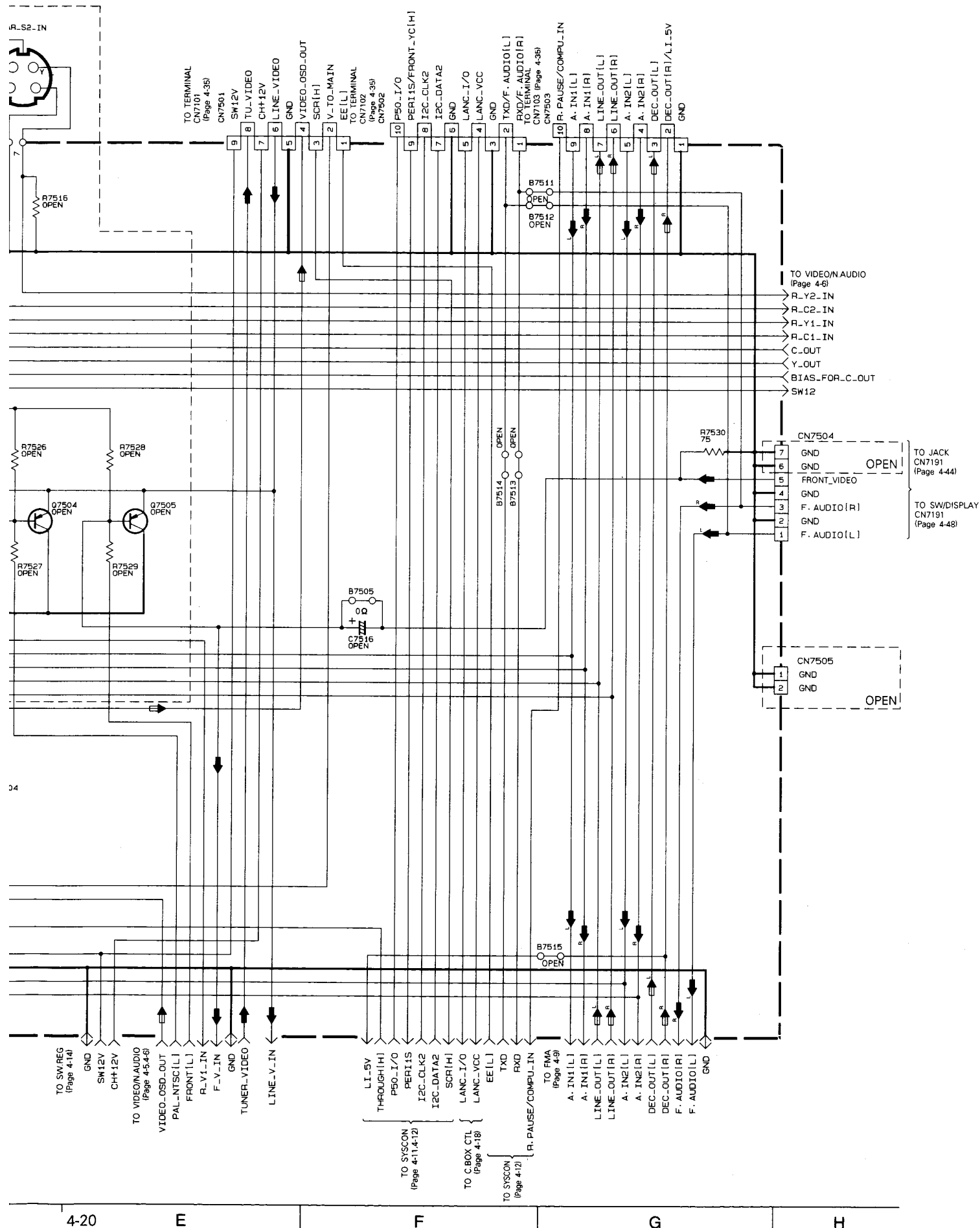
4.8 C.BOX CTL SCHEMATIC DIAGRAM



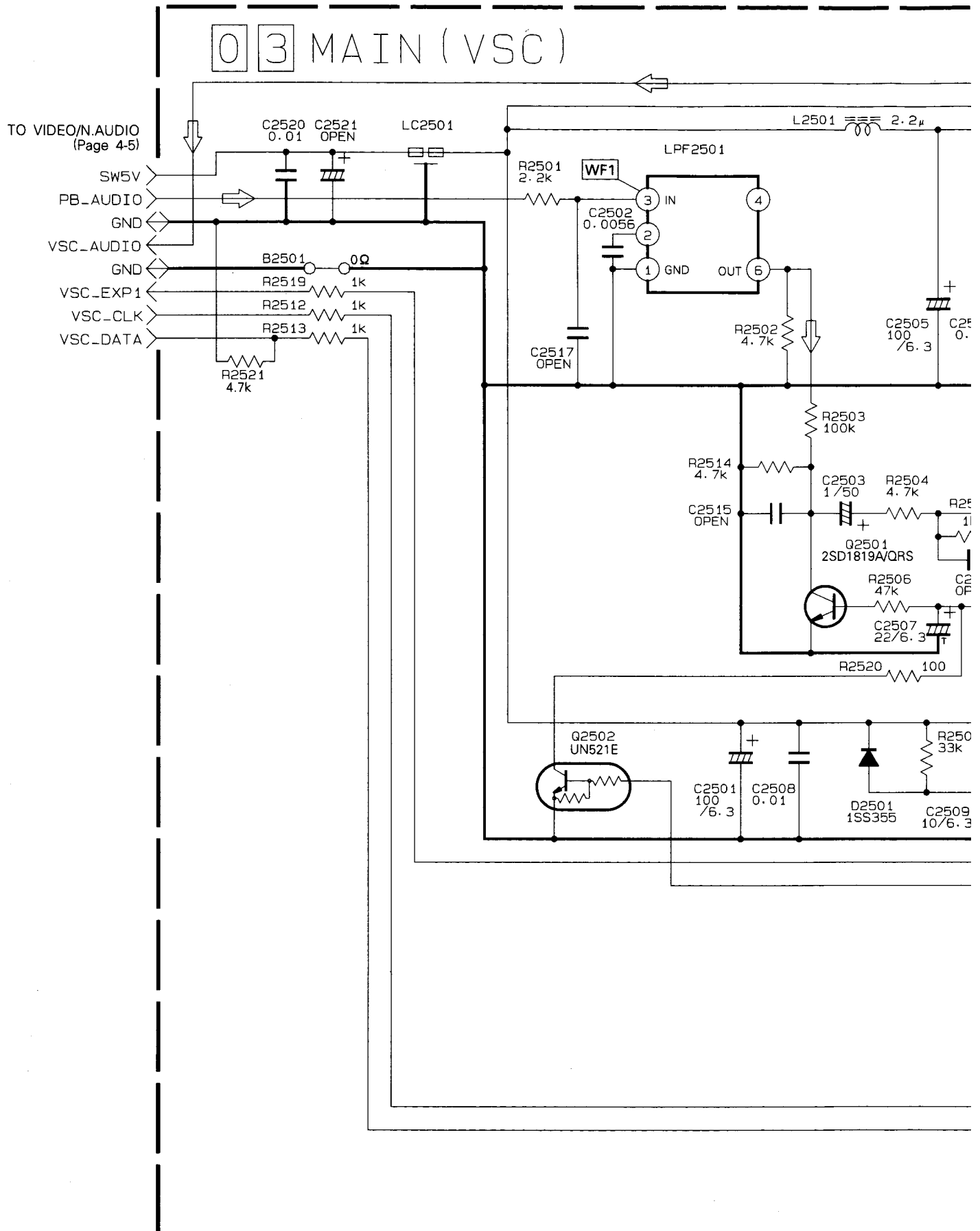


4.9 TERMINAL(MAIN) SCHEMATIC DIAGRAM

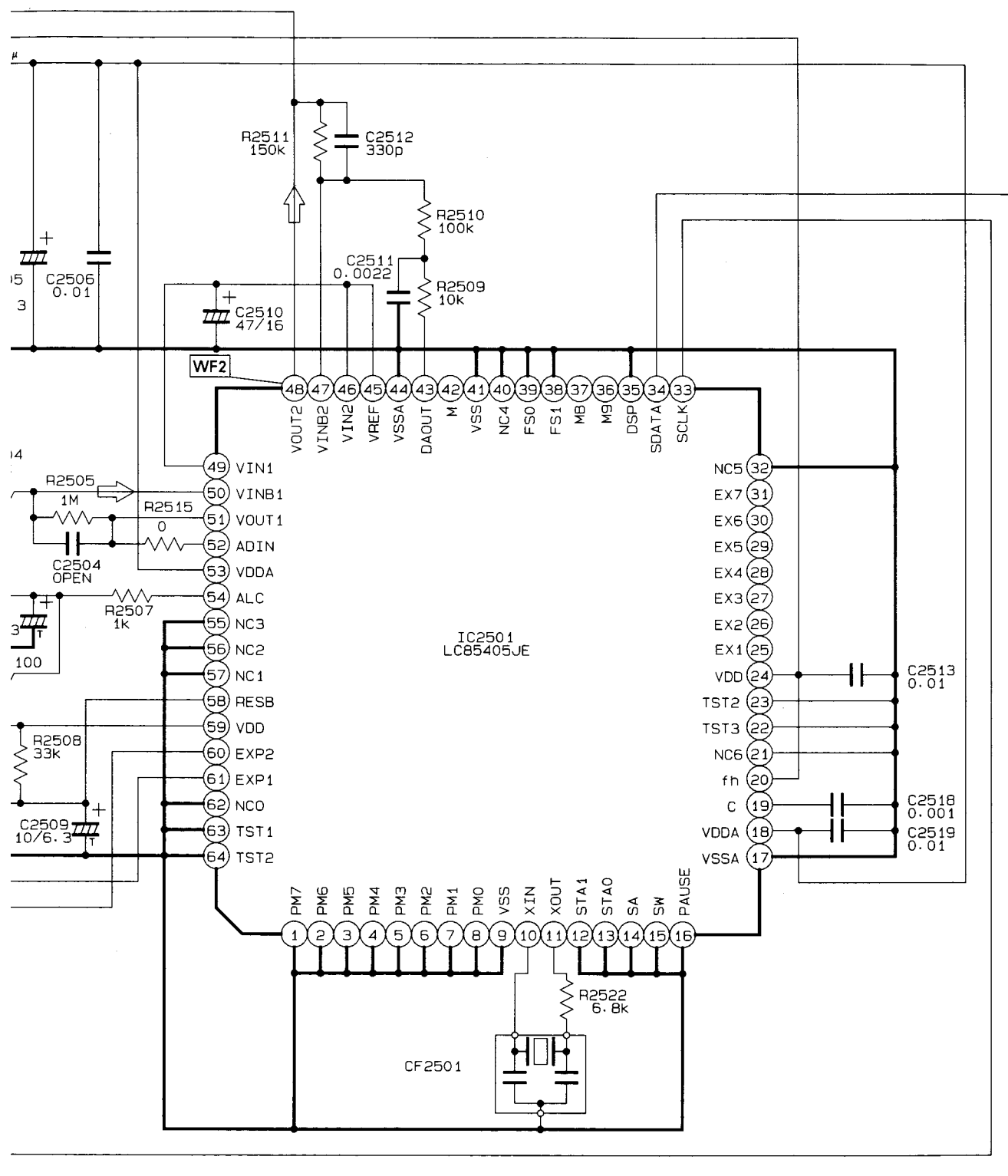




4.10 VSC SCHEMATIC DIAGRAM

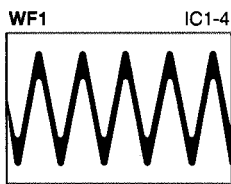


NOTE : For VSC waveforms, please refer to page 4-23.

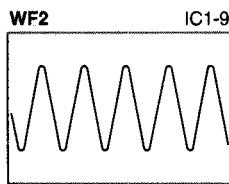


WAVEFORMS

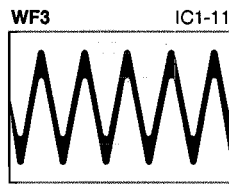
— VIDEO/N.AUDIO —



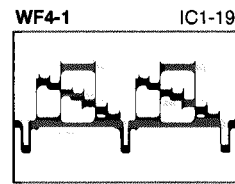
REC 0.8 Vp-p
20 mV/0.5 msec/DIV



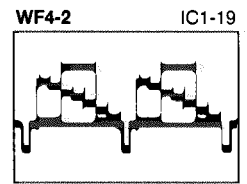
REC 0.1 Vp-p
2 mV/0.5 msec/DIV



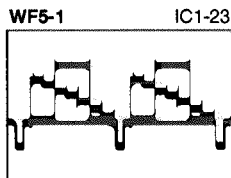
PB 0.48 Vp-p
10 mV/0.5 msec/DIV



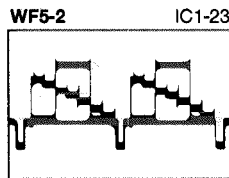
REC 0.51 Vp-p
20 mV/20 µsec/DIV



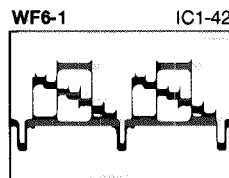
PB 0.55 Vp-p
20 mV/20 µsec/DIV



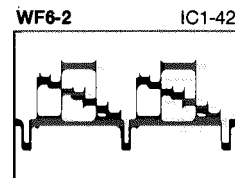
REC 0.48 Vp-p
20 mV/20 µsec/DIV



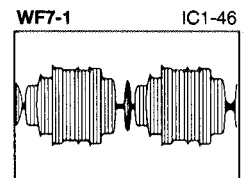
PB 0.52 Vp-p
20 mV/20 µsec/DIV



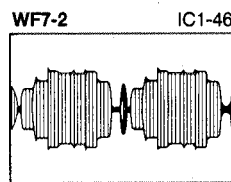
REC 0.4 Vp-p
10 mV/20 µsec/DIV



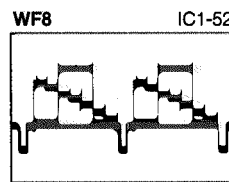
PB 0.43 Vp-p
10 mV/20 µsec/DIV



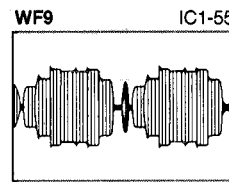
REC 0.24 Vp-p
10 mV/20 µsec/DIV



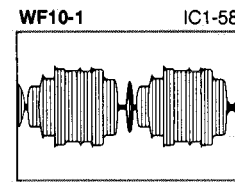
PB 0.3 Vp-p
10 mV/20 µsec/DIV



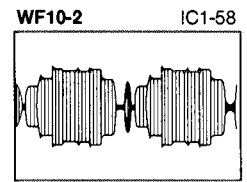
PB 2.2 Vp-p
50 mV/20 µsec/DIV



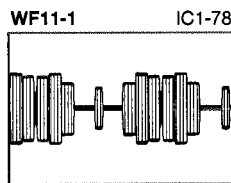
PB 0.6 Vp-p
20 mV/20 µsec/DIV



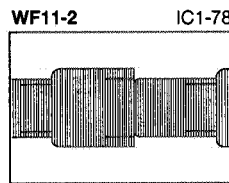
REC 0.4 Vp-p
10 mV/20 µsec/DIV



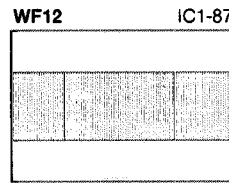
PB 0.48 Vp-p
10 mV/20 µsec/DIV



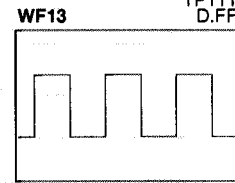
REC 0.62 Vp-p
20 mV/20 µsec/DIV



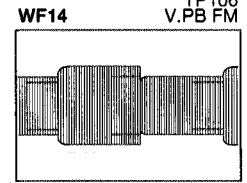
PB 0.22 Vp-p
10 mV/5 msec/DIV



REC 1.6 Vp-p
50 mV/1 msec/DIV

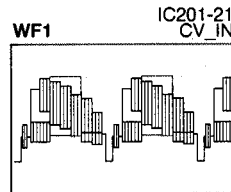


REC/PB 5.2 Vp-p
0.2 V/10 msec/DIV

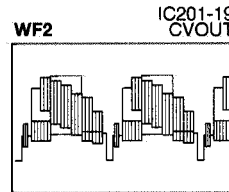


PB 0.32 Vp-p
10 mV/5 msec/DIV

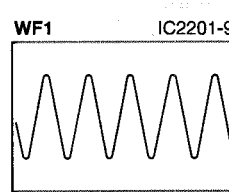
— ON SCREEN —



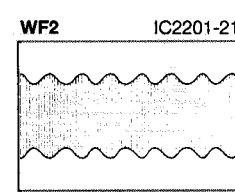
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV



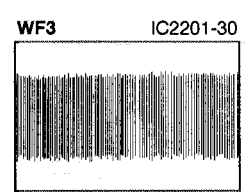
REC/PB 2.2 Vp-p
50 mV/20 µsec/DIV



REC 0.11 Vp-p
2 mV/0.5 msec/DIV

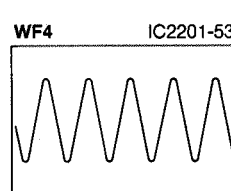


REC 0.48 Vp-p
10 mV/1 msec/DIV

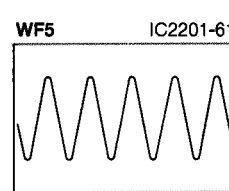


PB 0.56 Vp-p
20 mV/5 msec/DIV

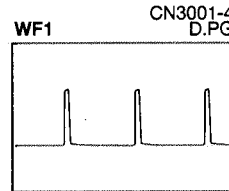
— SYSCON —



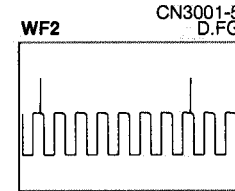
REC/PB 1.2 Vp-p
20 mV/0.5 msec/DIV



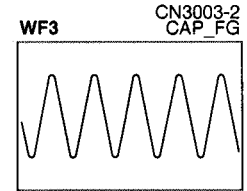
REC 0.12 Vp-p
2 mV/0.5 msec/DIV



REC/PB 4.8 Vp-p
0.2 V/10 msec/DIV

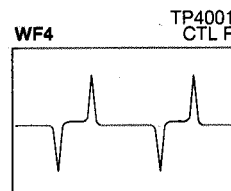


REC/PB 4.5 Vp-p
0.1 V/5 msec/DIV

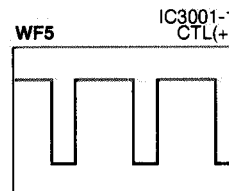


REC/PB 2.2 Vp-p
50 mV/0.5 msec/DIV

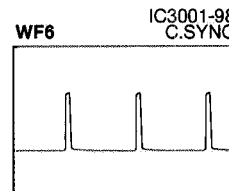
— VSC —



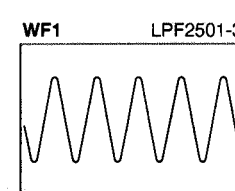
PB 2.5 Vp-p
50 mV/10 msec/DIV



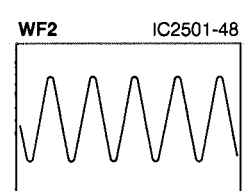
REC 4.0 Vp-p
0.1 V/10 msec/DIV



REC/PB 4.1 Vp-p
0.1 V/20 µsec/DIV



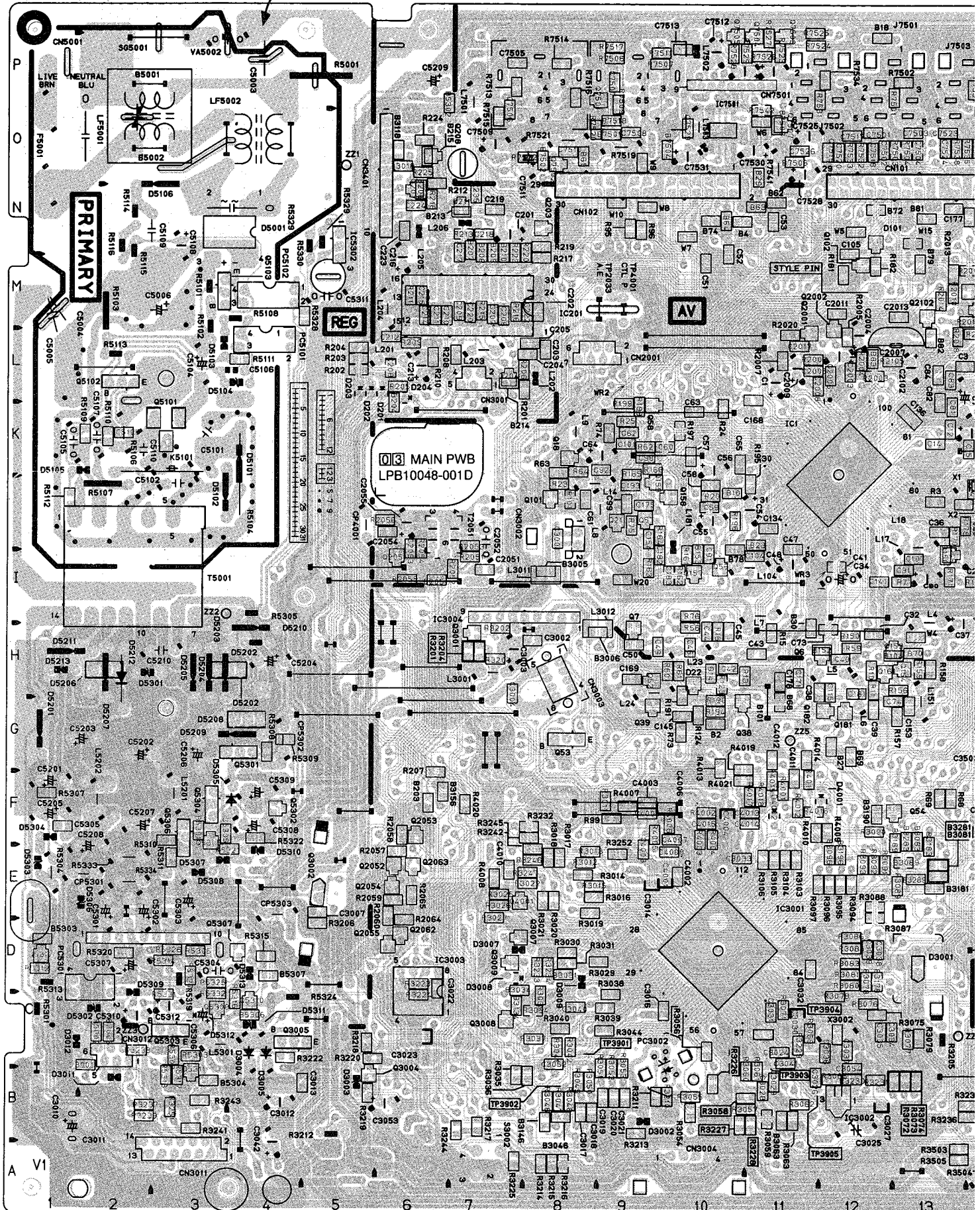
PB 0.4 Vp-p
10 mV/0.5 msec/DIV

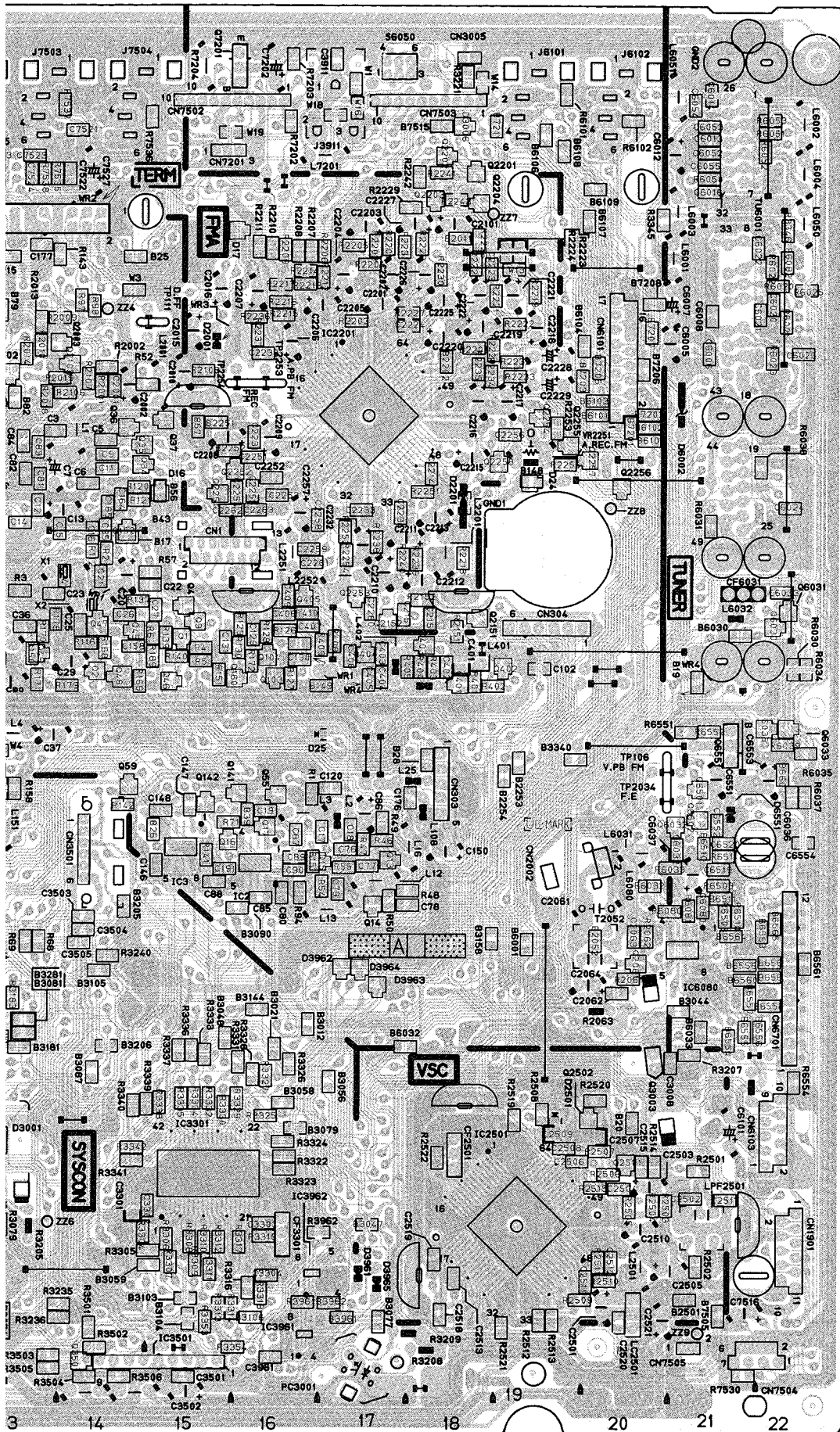


PB 0.7 Vp-p
20 mV/0.5 msec/DIV

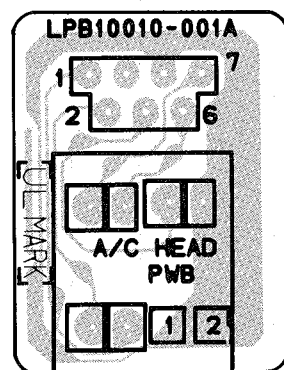
4.11 MAIN, A/C HEAD AND LOADING MOTOR CIRCUIT BOARDS

DANGEROUS VOLTAGE

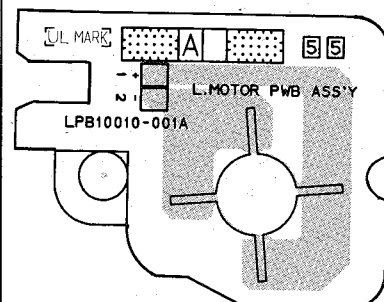




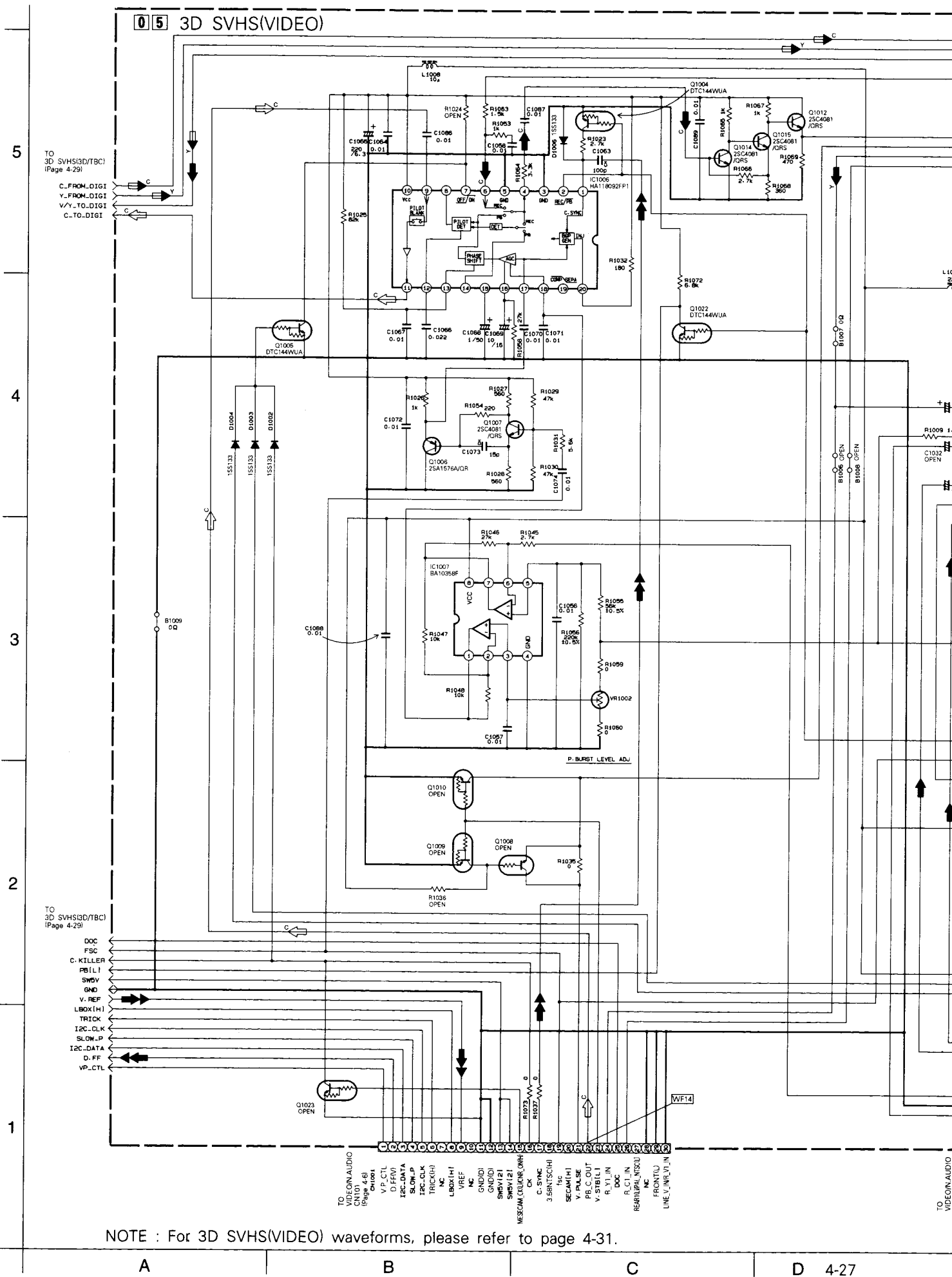
— A/C HEAD —



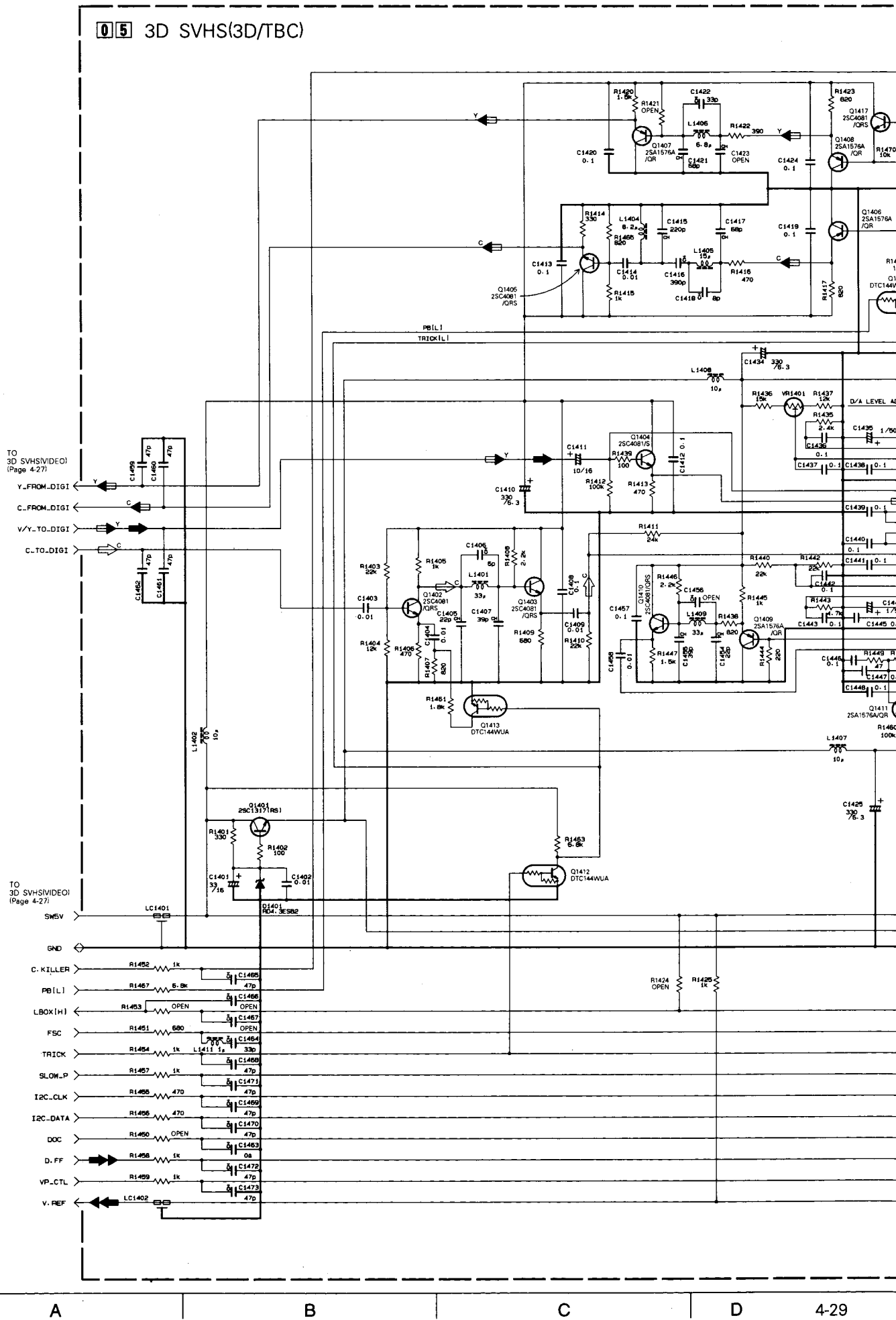
— LOADING MOTOR —

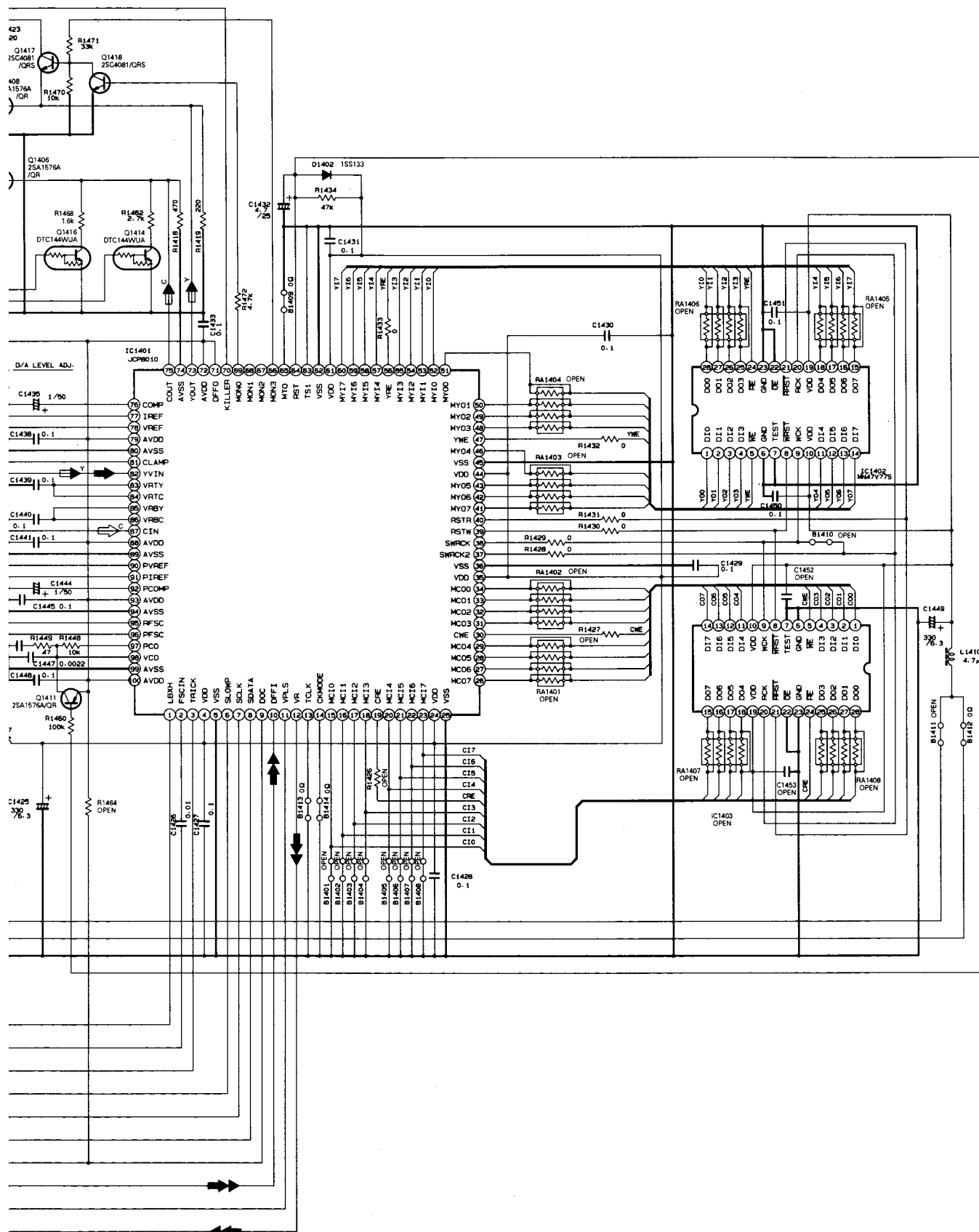


4.12 3D SVHS(VIDEO) SCHEMATIC DIAGRAM



4.13 3D SVHS(3D/TBC) SCHEMATIC DIAGRAM

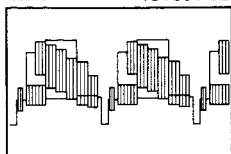




WAVEFORMS

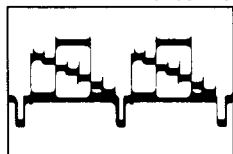
— 3D SVHS(VIDEO) —

WF1 IC1001-52



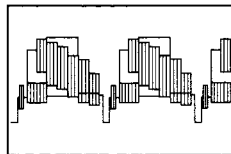
REC 0.76 Vp-p
20 mV/20 μ sec/DIV

WF2 IC1001-46



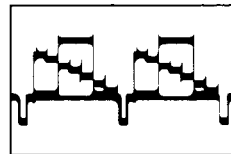
REC 1.0 Vp-p
20 mV/20 μ sec/DIV

WF3-1 IC1001-39



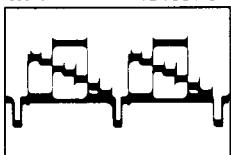
REC 1.8 Vp-p
50 mV/20 μ sec/DIV

WF3-2 IC1001-39



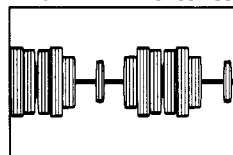
REC/PB 1.7 Vp-p
50 mV/20 μ sec/DIV

WF4 IC1001-37



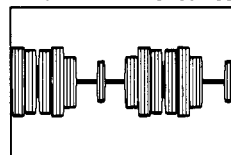
REC/PB 0.8 Vp-p
20 mV/20 μ sec/DIV

WF5 IC1001-35



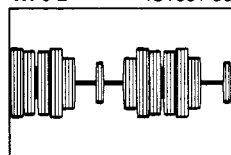
REC 0.65 Vp-p
20 mV/20 μ sec/DIV

WF6-1 IC1001-33



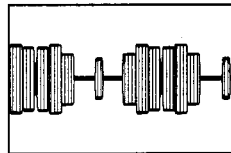
REC 0.35 Vp-p
10 mV/20 μ sec/DIV

WF6-2 IC1001-33



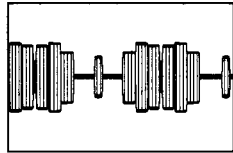
PB 0.5 Vp-p
10 mV/20 μ sec/DIV

WF7 IC1001-28



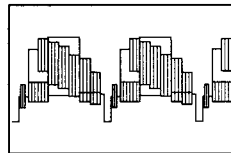
REC 0.7 Vp-p
20 mV/20 μ sec/DIV

WF8 IC1001-26



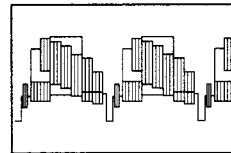
REC/PB 1.5 Vp-p
50 mV/20 μ sec/DIV

WF9 IC1001-25



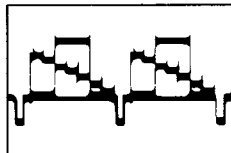
REC/PB 2.2 Vp-p
50 mV/20 μ sec/DIV

WF10 IC1001-23



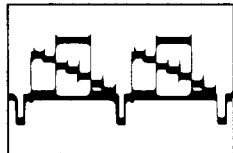
REC/PB 2.2 Vp-p
50 mV/20 μ sec/DIV

WF11 IC1001-21



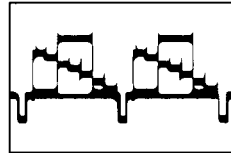
REC/PB 2.2 Vp-p
50 mV/20 μ sec/DIV

WF12 IC1001-5



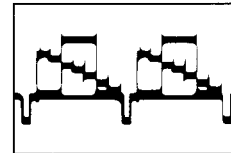
PB 0.56 Vp-p
20 mV/20 μ sec/DIV

WF13-1 IC1001-56



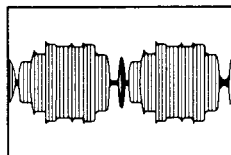
REC 0.52 Vp-p
20 mV/20 μ sec/DIV

WF13-2 IC1001-56



PB 0.56 Vp-p
20 mV/20 μ sec/DIV

WF14 CN1001-22



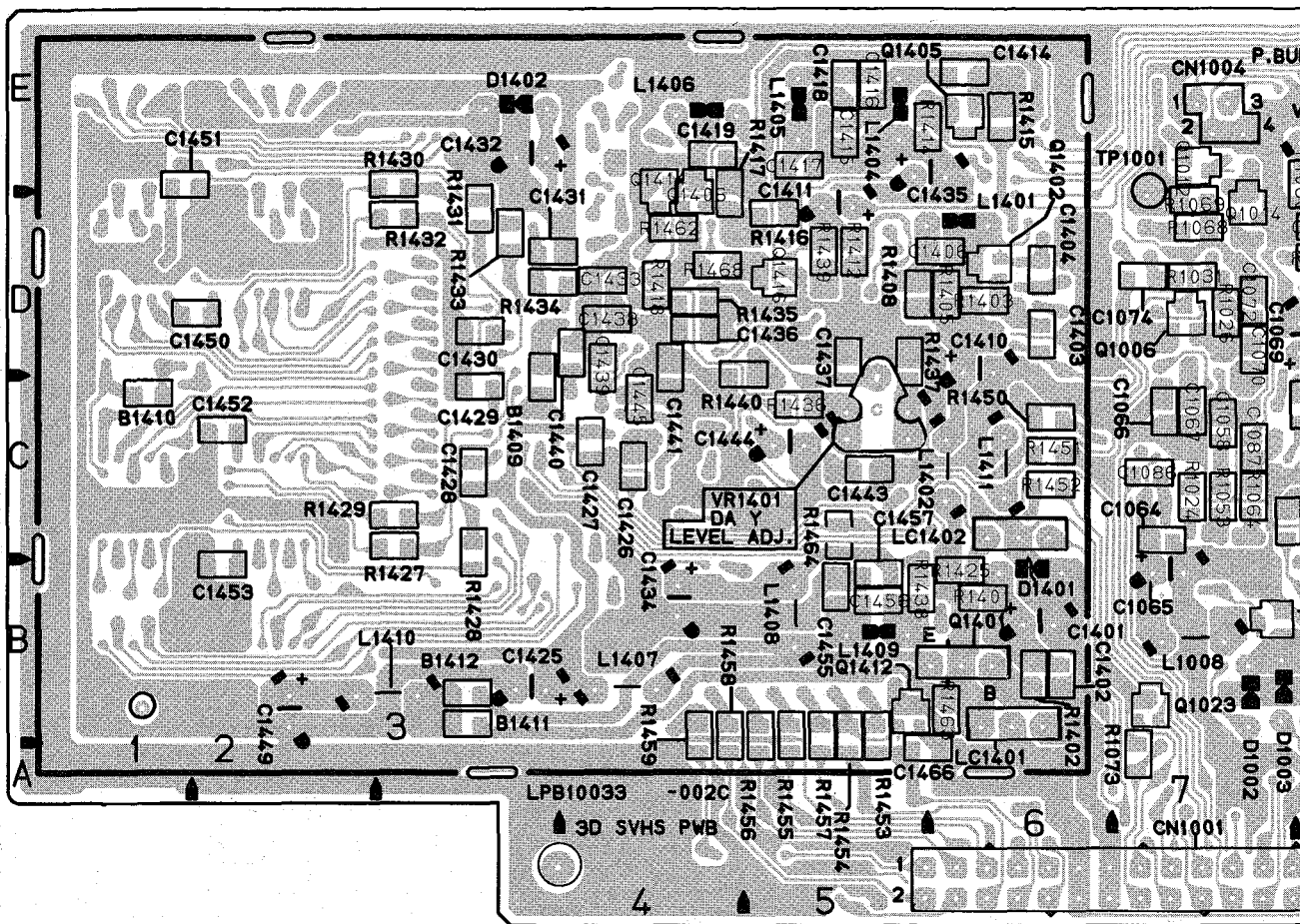
PB 0.62 Vp-p
20 mV/20 μ sec/DIV

COMPONENT PARTS LOCATION GUIDE <3D SVHS>

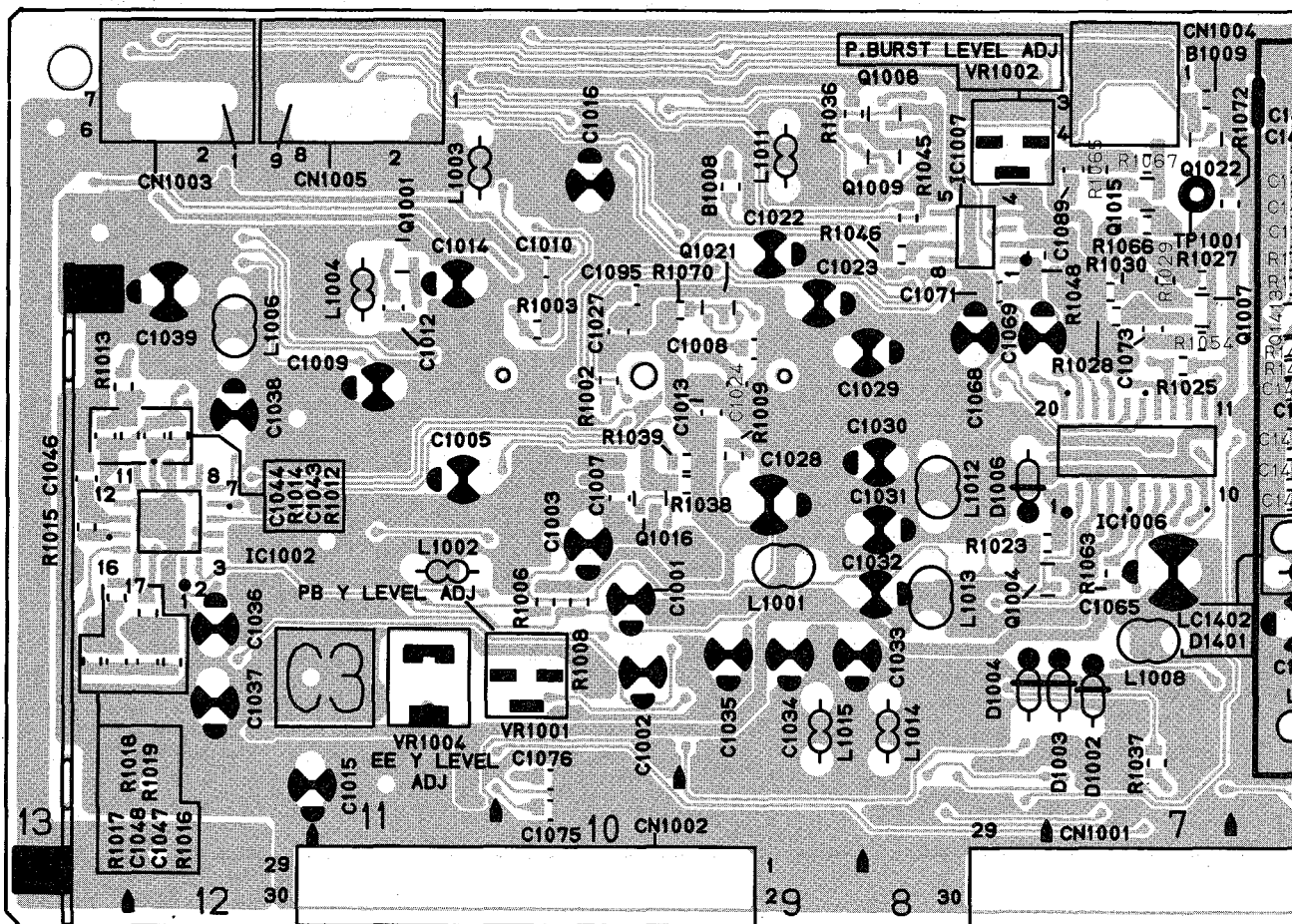
REF.NO.	LOCATION			REF.NO.	LOCATION			REF.NO.	LOCATION			REF.NO.	LOCATION			REF.NO.	LOCATION			REF.NO.	LOCATION						
CAPACITOR				C1064	B	C	7C	C1431	B	C	3D	D1401	A	D	6B	Q1404	A	C	5D	R1048	A	C	8D	R1434	B	C	3D
C1001	A	D	10B	C1065	A	D	7B	C1432	A	D	3E	D1402	A	D	3E	Q1405	B	C	6E	R1049	B	C	10B	R1435	B	C	4D
C1002	A	D	10B	C1066	B	C	7C	C1433	B	C	4D	IC			Q1406	B	C	4D	R1052	B	C	10C	R1436	B	C	5C	
C1003	A	D	10C	C1067	B	C	7C	C1434	A	D	4B	IC1001	B	C	10D	Q1407	A	C	5E	R1053	B	C	7C	R1437	B	C	5D
C1004	B	C	11C	C1068	A	D	8D	C1435	A	D	5E	IC1002	A	C	12C	Q1408	A	C	4D	R1054	A	C	7D	R1438	B	C	5B
C1005	A	D	11C	C1069	A	D	8D	C1436	B	C	4D	IC1006	A	C	7C	Q1409	A	C	6B	R1055	B	C	8E	R1439	B	C	5D
C1006	B	C	11C	C1070	B	C	7D	C1437	B	C	5D	IC1007	A	C	8D	Q1410	A	C	5B	R1056	B	C	8D	R1440	B	C	5D
C1007	A	C	10C	C1071	A	C	8D	C1438	B	C	4D	IC1401	A	C	4D	Q1411	A	C	5C	R1058	B	C	8D	R1442	A	C	5D
C1008	A	C	9D	C1072	B	C	7D	C1439	B	C	4D	IC1402	A	C	2D	Q1412	B	C	5B	R1059	B	C	8E	R1443	A	C	5C
C1009	A	D	11C	C1073	A	C	7D	C1440	B	C	4D	IC1403	A	C	2C	Q1413	A	C	6D	R1060	B	C	8E	R1444	A	C	6B
C1010	A	C	10D	C1074	B	C	7D	C1441	B	C	4D	COIL			Q1414	B	C	4D	R1063	A	C	7B	R1445	A	C	5B	
C1011	B	C	11D	C1075	A	C	10A	C1442	A	C	5D	L1001	A	D	9B	Q1416	B	C	5D	R1064	B	C	7C	R1446	A	C	5B
C1012	A	C	11D	C1076	A	C	10A	C1443	B	C	5C	L1002	A	D	11B	Q1417	A	C	4D	R1065	A	C	7E	R1447	A	C	5C
C1013	A	C	9C	C1082	B	C	9D	C1444	A	D	5C	L1003	A	D	11D	Q1418	A	C	4E	R1066	A	C	7D	R1448	A	C	4C
C1014	A	D	11D	C1086	B	C	7C	C1445	B	C	4C	L1004	A	D	11D	RESISTOR			R1067	A	C	7E	R1449	A	C	5C	
C1015	A	D	12A	C1087	B	C	7C	C1446	A	C	4C	L1006	A	D	12D	R1001	B	C	11C	R1068	B	C	7D	R1450	B	C	6C
C1016	A	D	10D	C1088	B	C	8D	C1447	A	C	4C	L1008	A	D	7B	R1002	A	C	10C	R1069	B	C	7D	R1451	B	C	6C
C1017	B	C	10E	C1089	A	C	7E	C1448	A	C	4C	L1011	A	D	9E	R1003	A	C	10D	R1070	A	C	10D	R1452	B	C	6C
C1018	B	C	10E	C1090	B	C	9D	C1449	A	D	2B	L1012	A	D	8C	R1004	B	C	11D	R1071	B	C	11B	R1453	B	C	5B
C1019	B	C	10E	C1091	B	C	8C	C1450	B	C	2D	L1013	A	D	8B	R1005	B	C	10C	R1072	A	C	7D	R1454	B	C	5B
C1020	B	C	9E	C1092	B	C	8B	C1451	B	C	1E	L1014	A	D	8A	R1006	A	C	10B	R1073	B	C	7A	R1455	B	C	5B
C1021	B	C	9E	C1093	B	C	8B	C1452	B	C	2C	L1015	A	D	9A	R1007	B	C	10E	R1401	B	C	6B	R1456	B	C	5B
C1022	A	D	9D	C1094	B	C	9B	C1453	B	C	2B	L1401	A	D	6D	R1008	A	C	10B	R1402	B	C	6B	R1457	B	C	5B
C1023	A	D	9D	C1095	A	C	10D	C1454	A	C	6B	L1402	A	D	6C	R1009	A	C	9C	R1403	B	C	6D	R1458	B	C	4B
C1024	A	C	9C	C1401	A	D	6B	C1455	B	C	5B	L1404	A	D	5E	R1010	B	C	12C	R1404	A	C	6D	R1459	B	C	4B
C1026	B	C	10B	C1402	B	C	6B	C1456	B	C	5B	L1405	A	D	5E	R1011	B	C	12C	R1405	B	C	6D	R1460	A	C	5B
C1027	A	C	10D	C1403	B	C	6D	C1457	B	C	5B	L1406	A	D	4E	R1012	A	C	12C	R1406	A	C	6D	R1461	A	C	6D
C1028	A	D	9C	C1404	B	C	6D	C1458	A	C	5C	L1407	A	D	4B	R1013	A	C	13C	R1407	A	C	6D	R1462	B	C	4D
C1029	A	D	9D	C1405	A	C	6D	C1459	A	C	6E	L1408	A	D	5B	R1014	A	C	13C	R1408	B	C	5D	R1463	B	C	6B
C1030	A	D	8C	C1406	B	C	6D	C1460	A	C	6E	L1409	A	D	5B	R1015	A	C	13C	R1409	A	C	6D	R1464	B	C	5C
C1031	A	D	9C	C1407	A	C	5D	C1461	A	C	6D	L1410	A	D	3B	R1016	A	C	12B	R1410	A	C	5D	R1465	A	C	6E
C1032	A	D	9B	C1408	A	C	5D	C1462	A	C	6C	L1411	A	D	6C	R1017	A	C	13B	R1411	A	C	5D	R1467	A	C	6E
C1033	A	D	9B	C1409	A	C	6D	C1463	A	C	6C	TRANSISTOR			R1018	A	C	13B	R1412	B	C	5D	R1468	B	C	4D	
C1034	A	D	9B	C1410	A	D	6D	C1464	A	C	6C	Q1001	A	C	11D	R1019	A	C	12B	R1413	A	C	5D	R1470	A	C	4E
C1035	A	D	9B	C1411	A	D	5D	C1465	A	C	6C	Q1004	A	C	8B	R1020	B	C	13B	R1414	B	C	6E	R1471	A	C	4E
C1036	A	D	12B	C1412	A	C	5D	C1466	B	C	6A	Q1005	B	C	7B	R1021	B	C	12B	R1415	B	C	6E	R1472	A	C	4E
C1037	A	D	12B	C1413	A	C	6E	C1467	A	C	5B	Q1006	B	C	7D	R1023	A	C	8C	R1416	B	C	5D	OTHER			
C1038	A	D	12C	C1414	B	C	6E	C1468	A	C	5B	Q1007	A	C	7D	R1024	B	C	7C	R1417	B	C	4D	LC1401	A	D	6B
C1039	A	D	12D	C1415	B	C	5E	C1469	A	C	5B	Q1008	A	C	8E	R1025	A	C	7D	R1418	B	C	4D	LC1402	A	D	6C
C1040	B	C	12D	C1416	B	C	5E	C1470	A	C	5B	Q1009	A	C	8E	R1026	B	C	7D	R1419	A	C	4D	RA1401	A	C	3C
C1041	B	C	12D	C1417	B	C	5E	C1471	A	C	5B	Q1010	B	C	8E	R1027	A	C	7D	R1420	A	C	5E	RA1402	A	C	3C
C1042	B	C	13C	C1418	B	C	5E	C1472	A	C	5B	Q1012	B	C	7E	R1028	A	C	7D	R1421	A	C	4E	RA1403	A	C	3D
C1043	A	C	12C	C1419	B	C	4E	C1473	A	C	4B	Q1014	B	C	7D	R1029	A	C	7D	R1422	A	C	4E	RA1404	A	C	3D
C1044	A	C	13C	C1420	A	C	5D	CONNECTOR			Q1015	A	C	7E	R1030	A	C	7D	R1423	A	C	4D	RA1405	A	C	1E	
C1045	B	C	12C	C1421	A	C	5E	CN1001	A	D	6A	Q1016	A	C	10C	R1031	B	C	7D	R1424	A	C	5B	RA1406	A	C	2E
C1046	A	C	13C	C1422	A	C	4E	CN1002	A	D	9A	Q1018	B	C	11B	R1032	B	C	8C	R1425	B	C	6B	RA1407	A	C	2B
C1047	A	C	12B	C1423	A	C	4E	CN1003	A	D	12E	Q1019	B	C	11B	R1035	B	C	8E	R1426	A	C	3B	RA1408	A	C	1B
C1048	A	C	13B	C1424	A	C	5D	CN1004	A	D	7E	Q1020	B	C	10B	R1036	A	C	9E	R1427	B	C	3C	TP1001	A	D	7E
C1049	B	C	13B	C1425	A	D	3B	CN1005	A	D	11E	Q1021	A	C	9D	R1037	A	C	7A	R1428	B	C	3C	VR1001	A	D	10B
C1050	B	C	12B	C1426	B	C	4C	DIODE			Q1022	A	C	7E	R1038	A	C	9C	R1429	B	C	3C	VR1002	A	D	8E	
C1056	B	C	8D	C1427	B	C	4C	D1002	A	D	7B	Q1023	B	C	7B	R1039	A	C	9C	R1430	B	C	3E	VR1004	A	D	11B
C1057	B	C	8D	C1428	B	C	3C	D1003	A	D	7B	Q1401	A	D	6B	R1045	A	C	8D	R1431	B	C	3D	VR1401	A	D	5C
C1058	B	C	7C	C1429	B	C	3C	D1004	A	D	8B	Q1402	B	C	6D	R1046	A	C	8D	R1432	B	C	3D				
C1063	B	C	7C	C1430	B	C	3D	D1006	A	D	8C	Q1403	A	C	6D	R1047	B	C	8D	R1433	B	C	3D				

4.14 3D SVHS CIRCUIT BOARD

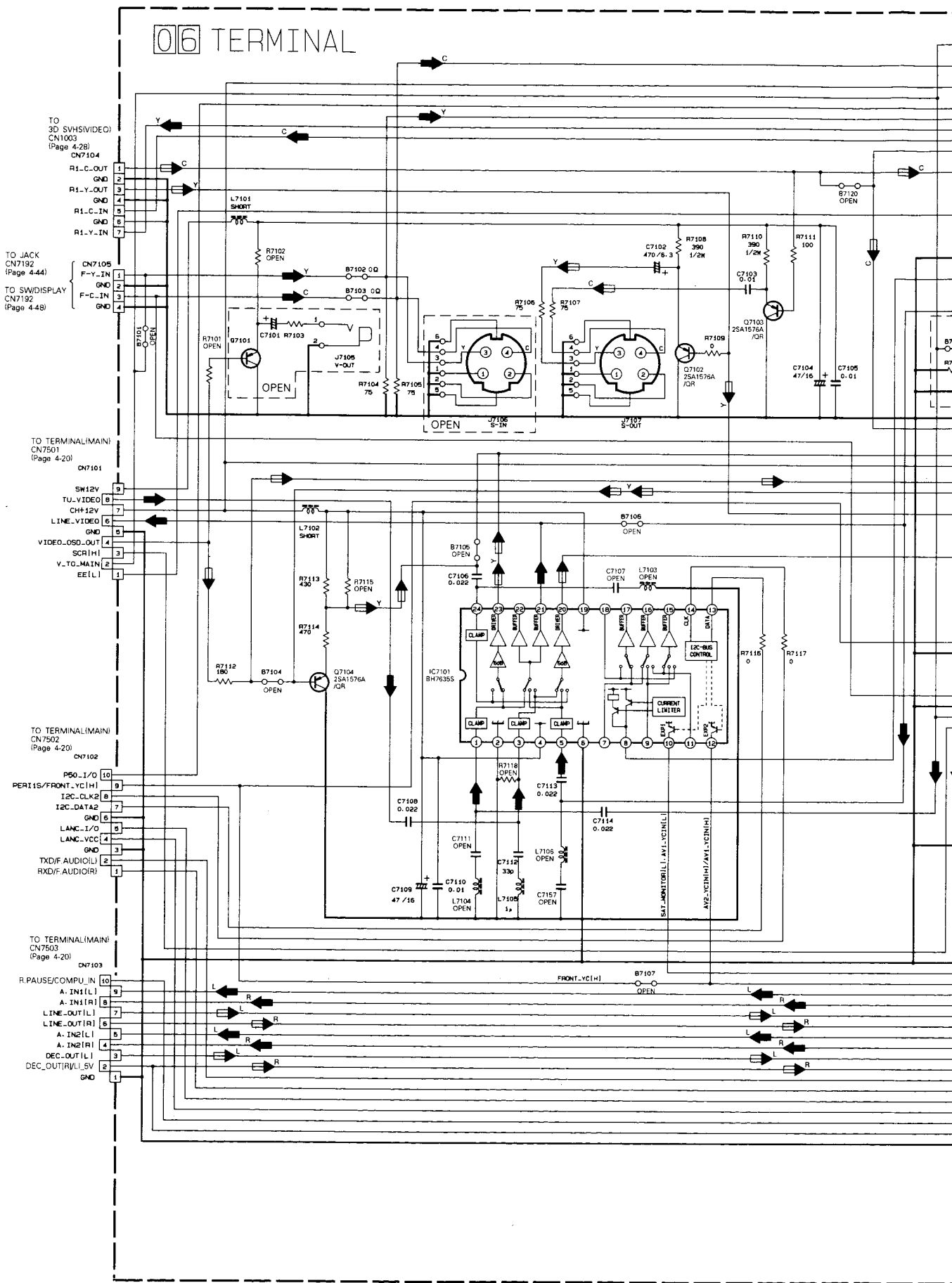
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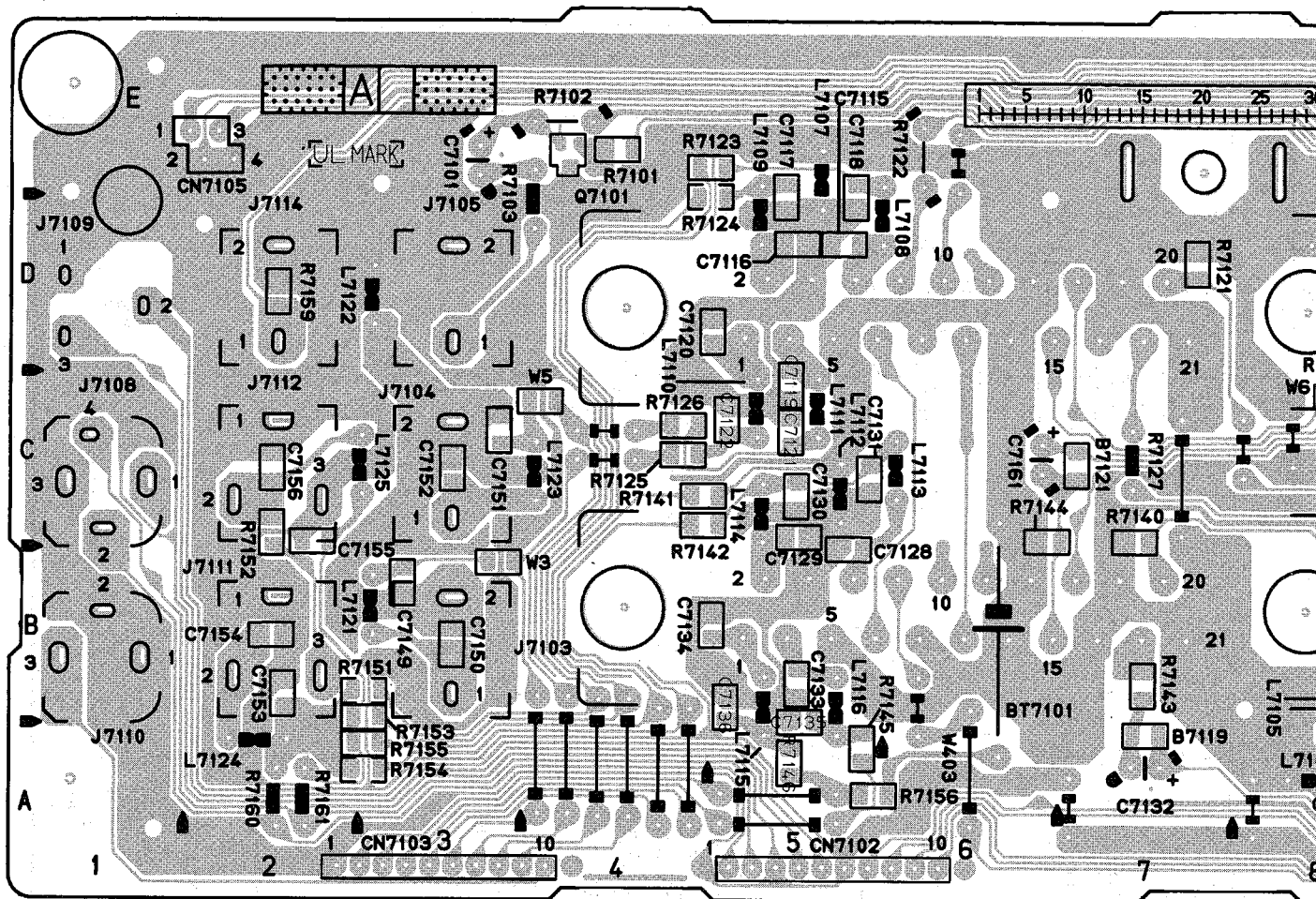
— COMPONENT SIDE (A) —



4.15 TERMINAL SCHEMATIC DIAGRAM

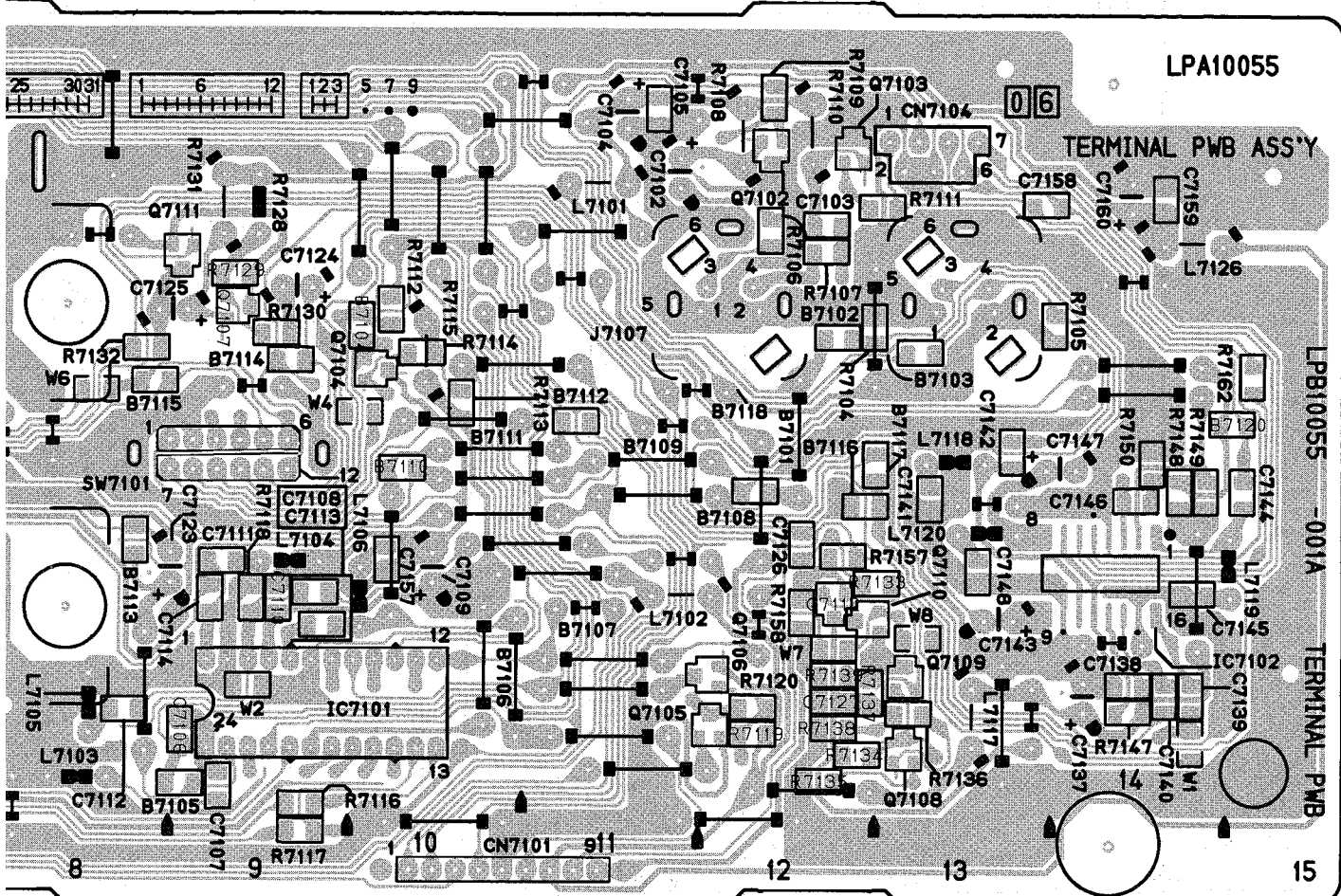


4.16 TERMINAL CIRCUIT BOARD

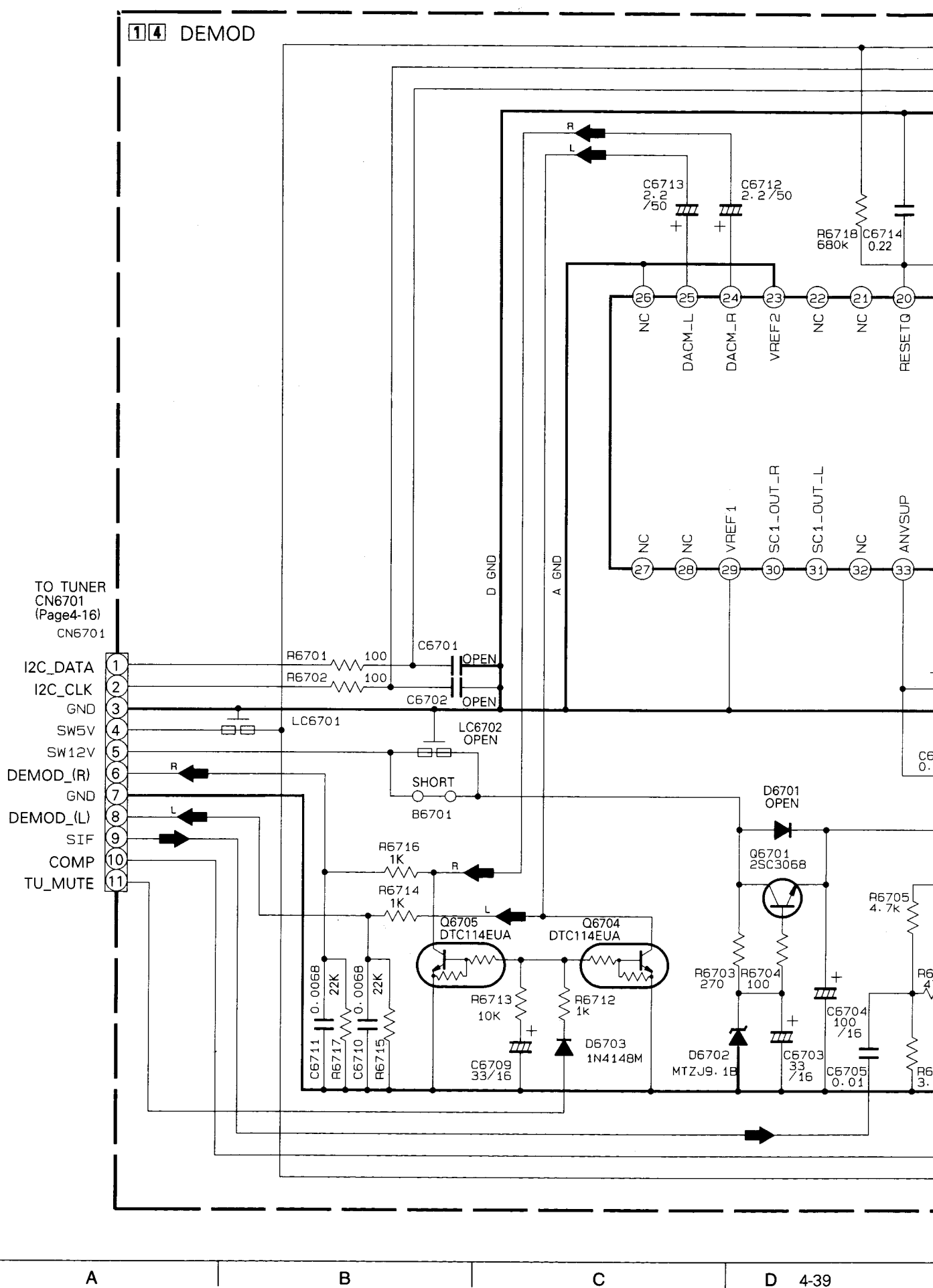


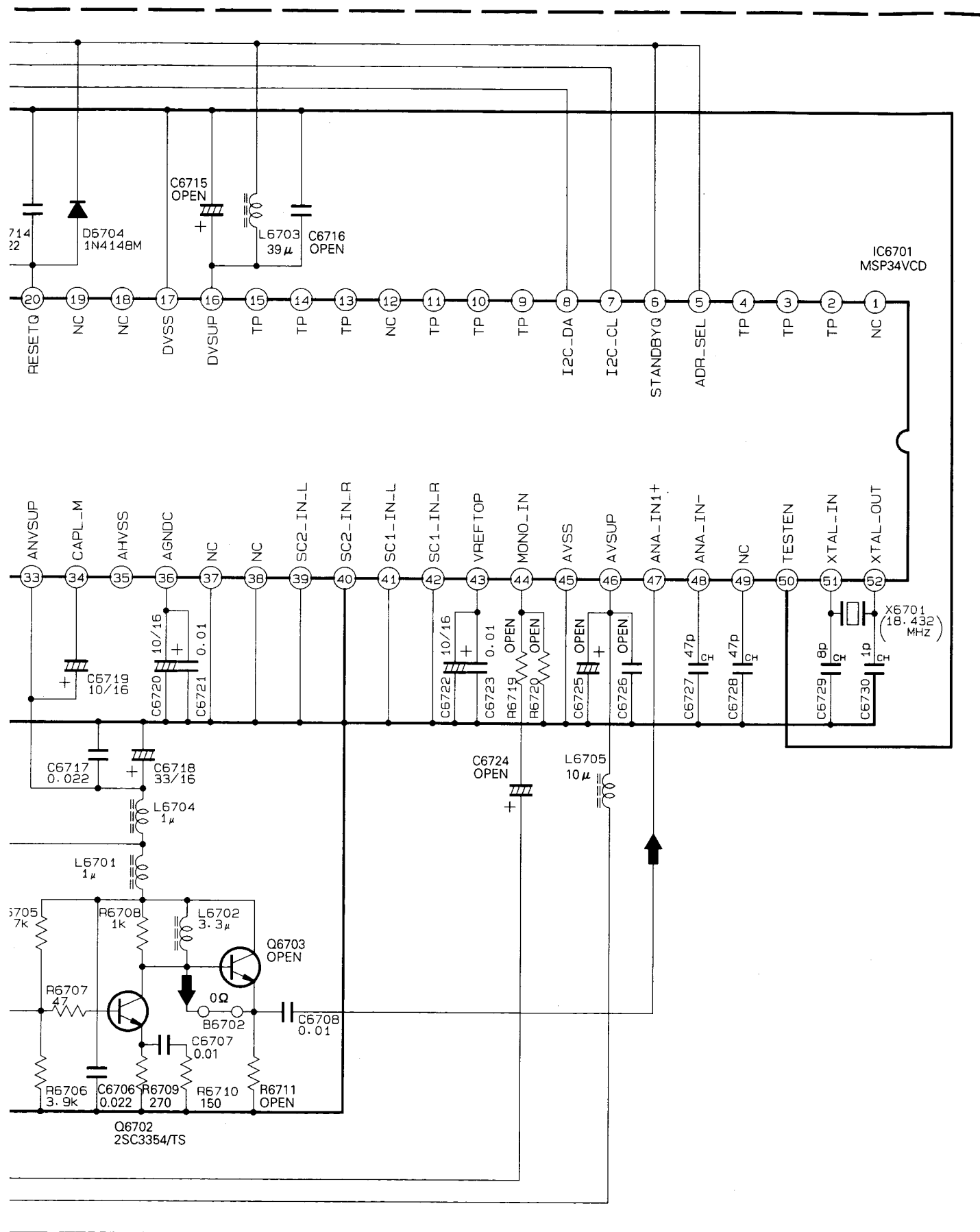
COMPONENT PARTS LOCATION GUIDE <TERMINAL>

REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR				C7128	B C 5C	C7156	B C 2C	J7111	A D 2B	L7125	A D 3C	R7112	B C 10D
C7101	A D 3E	C7129	B C 5C	C7157	B C 10B	J7112	A D 2C	L7126	A D 14D	R7113	B C 10C	R7140	B C 7C
C7102	A D 11E	C7130	B C 5C	C7158	B C 13D	J7114	A D 2D	TRANSISTOR				R7141	B C 4C
C7103	B C 12D	C7131	B C 5C	C7159	B C 14D	COIL				R7114	B C 10D	R7142	B C 4C
C7104	A D 11E	C7132	A D 7A	C7160	A D 14D	L7101	A D 11E	Q7101	B C 4E	R7115	A D 10C	R7143	B C 7B
C7105	B C 11E	C7133	B C 5B	C7161	A D 6C	L7102	A D 12B	Q7102	B C 12E	R7116	B C 9A	R7144	B C 6C
C7106	B C 9A	C7134	B C 5B	CONNECTOR				Q7103	B C 12E	R7117	B C 9A	R7145	B C 5A
C7107	B C 9A	C7135	B C 5B	CN7101	A D 10A	L7103	A D 8A	Q7104	B C 10D	R7118	B C 9B	R7146	B C 5A
C7108	B C 9B	C7136	B C 5B	CN7102	A D 5A	L7104	A D 9B	Q7105	B C 12B	R7119	B C 12A	R7147	B C 14B
C7109	A D 10B	C7137	A D 14B	CN7103	A D 2A	L7105	A D 8A	Q7106	B C 12B	R7120	B C 12B	R7148	B C 14C
C7110	B C 9B	C7138	B C 14B	CN7104	A D 13E	L7106	A D 10B	Q7107	B C 9D	R7121	B C 7D	R7149	B C 14C
C7111	B C 9B	C7139	B C 14B	CN7105	A D 2E	L7107	A D 5E	Q7108	B C 13A	R7122	A D 6E	R7150	B C 14C
C7112	B C 8B	C7140	B C 14B	IC				Q7109	B C 13B	R7123	B C 5E	R7151	B C 3B
C7113	B C 9B	C7141	B C 13C	IC7101	A D 9B	L7108	A D 5D	Q7110	B C 12B	R7124	B C 5E	R7152	B C 2C
C7114	B C 9B	C7142	B C 13C	IC7102	B C 14B	L7109	A D 5D	Q7111	B C 9D	R7125	B C 4C	R7153	B C 3B
C7115	B C 5D	C7143	A D 13B	JACK				Q7112	B C 12B	R7126	B C 4C	R7154	B C 3A
C7116	B C 5D	C7144	B C 15C	J7101	A D 6D	L7110	A D 5C	RESISTOR				R7155	B C 3A
C7117	B C 5E	C7145	B C 14B	J7102	A D 6B	L7111	A D 5C	R7101	B C 4E	R7127	A D 7C	R7156	B C 5A
C7118	B C 5E	C7146	B C 14C	J7103	A D 3B	L7112	A D 5C	R7102	A D 3E	R7128	A D 9E	R7157	B C 12B
C7119	B C 5C	C7147	A D 13C	J7104	A D 3C	L7113	A D 6C	R7103	A D 3E	R7129	B C 9D	R7158	B C 12B
C7120	B C 5D	C7148	B C 13B	J7105	A D 3D	L7114	A D 5C	R7104	B C 12D	R7130	B C 9D	R7159	B C 2D
C7121	B C 5C	C7149	B C 3B	J7106	A D 13D	L7115	A D 5B	R7105	B C 14D	R7131	A D 9D	R7160	A D 2A
C7122	B C 5C	C7150	B C 3B	J7107	A D 12D	L7116	A D 5B	R7106	B C 12D	R7132	B C 8D	R7161	A D 2A
C7123	A D 9B	C7151	B C 3C	J7108	A D 1C	L7117	A D 13A	R7107	B C 12D	R7133	B C 13B	R7162	B C 15C
C7124	A D 9D	C7152	B C 3C	J7109	A D 1D	L7118	A D 13C	R7108	A D 12E	R7134	B C 12A	OTHER	
C7125	A D 9D	C7153	B C 2B	J7110	A D 1B	L7119	A D 15B	R7109	B C 12E	R7135	B C 12A	BT7101	A D 6B
C7126	B C 12C	C7154	B C 2B			L7120	A D 13C	R7110	A D 12E	R7136	B C 13B	SW7101	A D 9C
C7127	B C 12B	C7155	B C 2C			L7121	A D 3B	R7111	B C 13D	R7137	B C 12B		
						L7122	A D 3D			R7138	B C 12A		
						L7123	A D 4C			R7139	B C 12B		
						L7124	A D 2A						

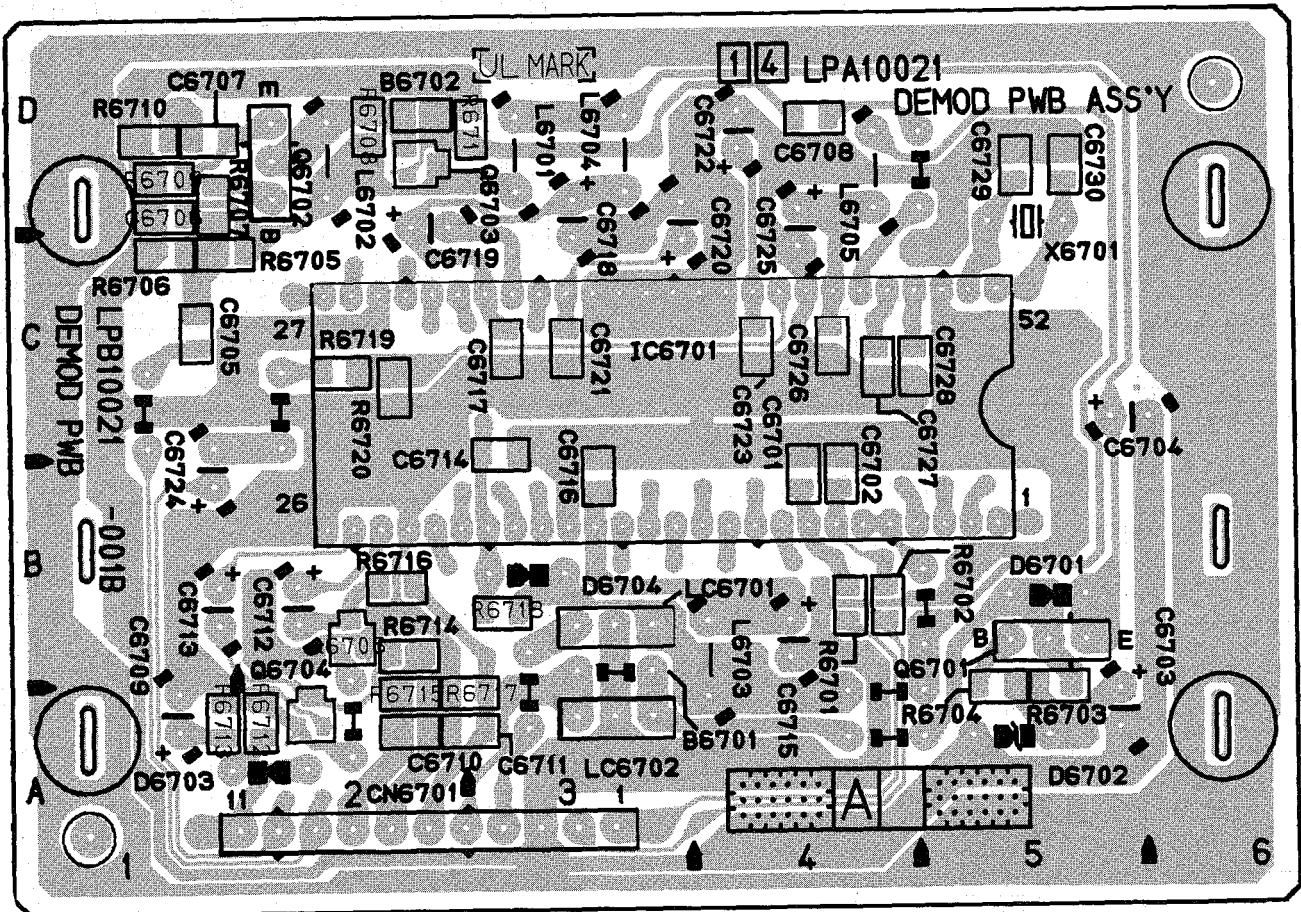


4.17 DEMODULATOR SCHEMATIC DIAGRAM





4.18 DEMODULATOR CIRCUIT BOARD

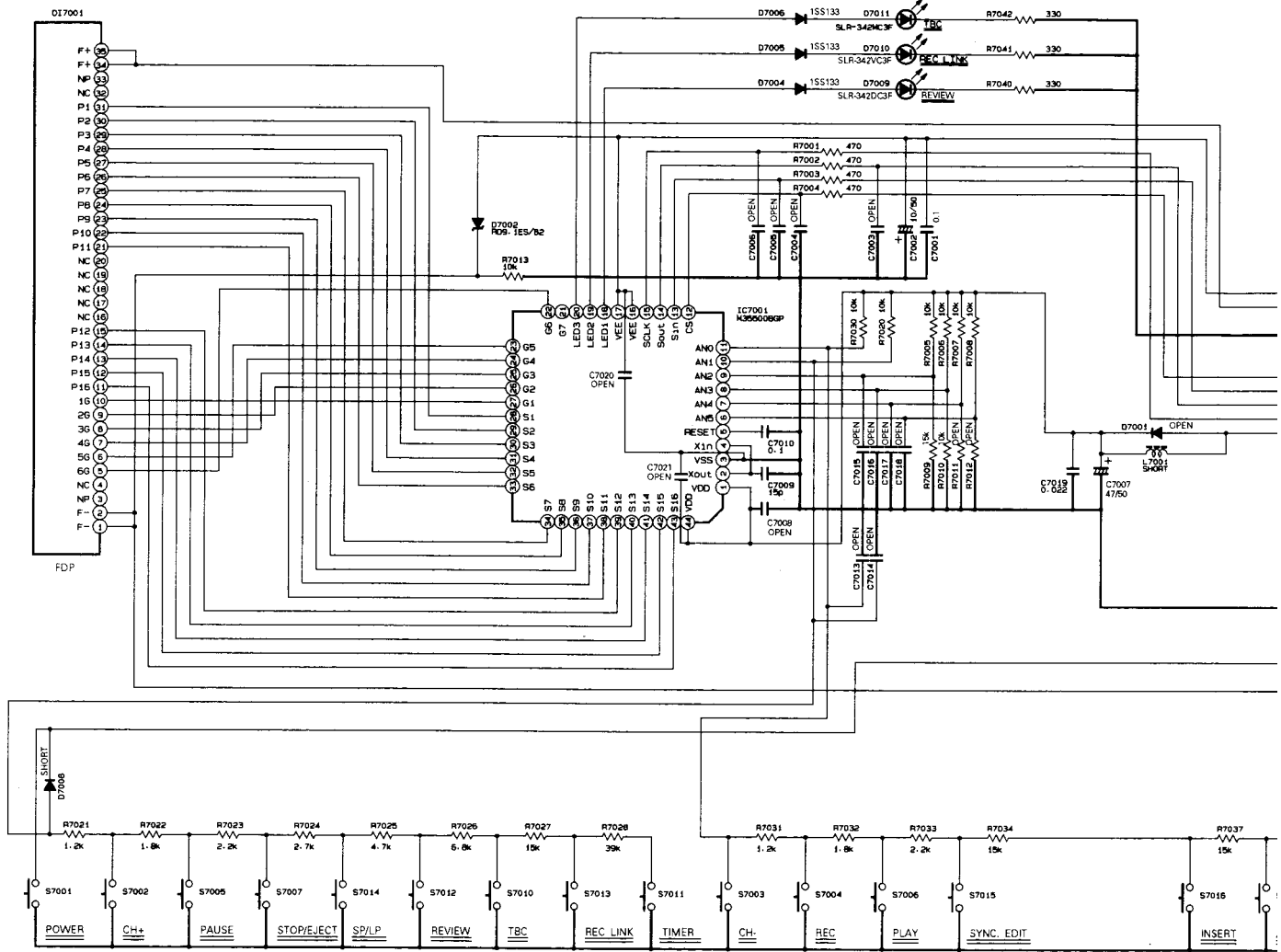


COMPONENT PARTS LOCATION GUIDE <DEMULATOR>

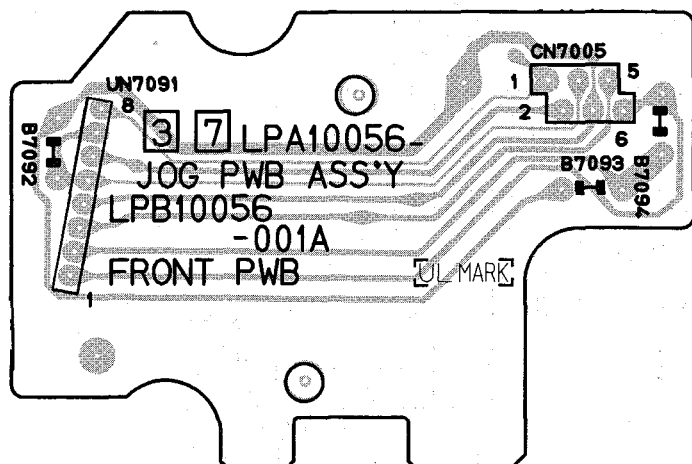
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C6717	B C 3C	DIODE		TRANSISTOR		R6710	B C 1D
C6701	B C 4B	C6718	A D 3D	D6701	A D 5B	Q6701	A D 5B	R6711	B C 3D
C6702	B C 4B	C6719	A D 2D	D6702	A D 5A	Q6702	A D 2D	R6712	B C 2A
C6703	A D 5A	C6720	A D 4C	D6703	A D 2A	Q6703	B C 2D	R6713	B C 2A
C6704	A D 5C	C6721	B C 3C	D6704	A D 3B	Q6704	B C 2A	R6714	B C 2B
C6705	B C 1C	C6722	A D 4D	IC		Q6705	B C 2B	R6715	B C 2A
C6706	B C 1D	C6723	B C 4C	RESISTOR				R6716	B C 2B
C6707	B C 1D	C6724	A D 1B	IC6701	A D 5B	R6701	B C 4B	R6717	B C 3A
C6708	B C 4D	C6725	A D 4D	COIL		R6702	B C 4B	R6718	B C 3B
C6709	A D 1A	C6726	B C 4C	L6701	A D 3D	R6703	B C 5A	R6719	B C 2C
C6710	B C 2A	C6727	B C 4C	L6702	A D 2D	R6704	B C 5A	R6720	B C 2C
C6711	B C 3A	C6728	B C 5C	L6703	A D 4A	R6705	B C 2C	OTHER	
C6712	A D 2B	C6729	B C 5D	L6704	A D 3D	R6706	B C 1C	LC6701	A D 3B
C6713	A D 1B	C6730	B C 5D	L6705	A D 4D	R6707	B C 1D	LC6702	A D 3A
C6714	B C 3C	CONNECTOR				R6708	B C 2D		
C6715	A D 4B	CN6701	A D 3A			R6709	B C 1D		
C6716	B C 3B								

4.19 SWITCH/DISPLAY, REC SAFETY, JACK AND JOG SCHEMATIC DIAGRAMS [HR-S8600EU]

28 SW/DISPLAY

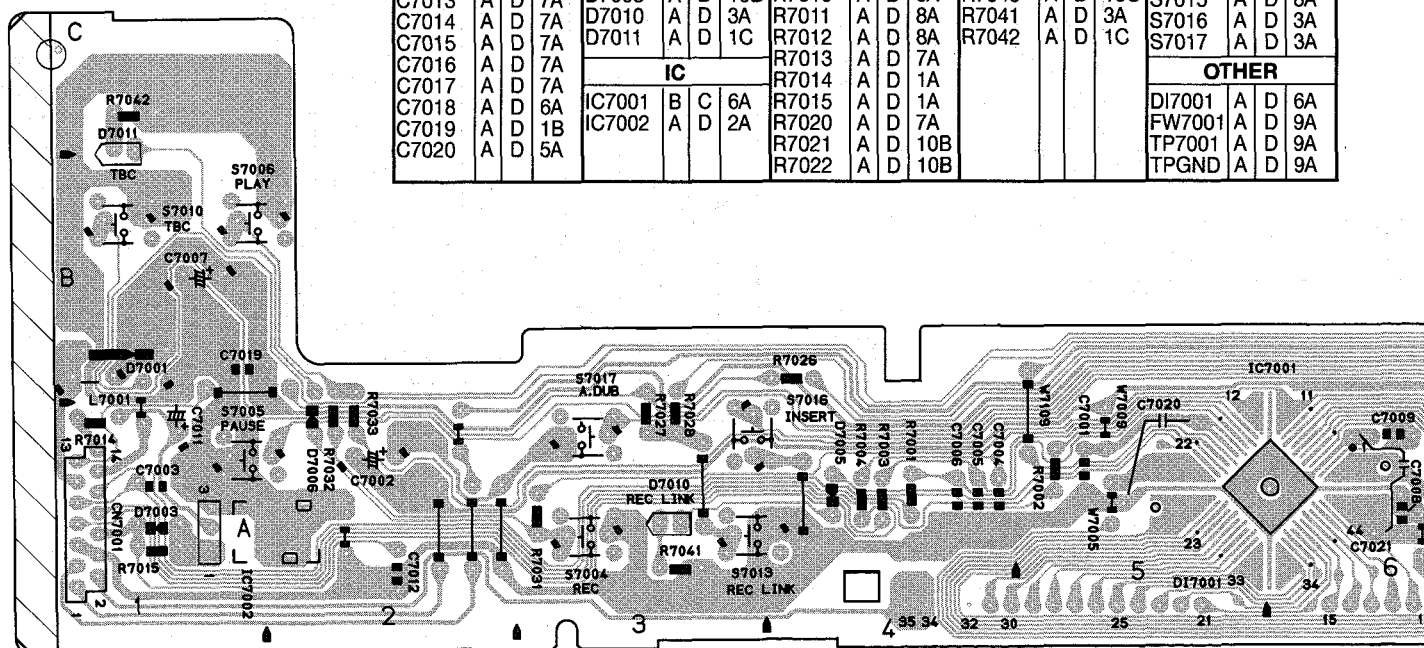


— JOG —



3 2 REC SAFE 57041 LPAT0056
LPB10056 JUL MARK
-001A 1 2 REC SAFE
FRONT PWB AY
PWB FW7001 1 2

— SWITCH/DISPLAY —

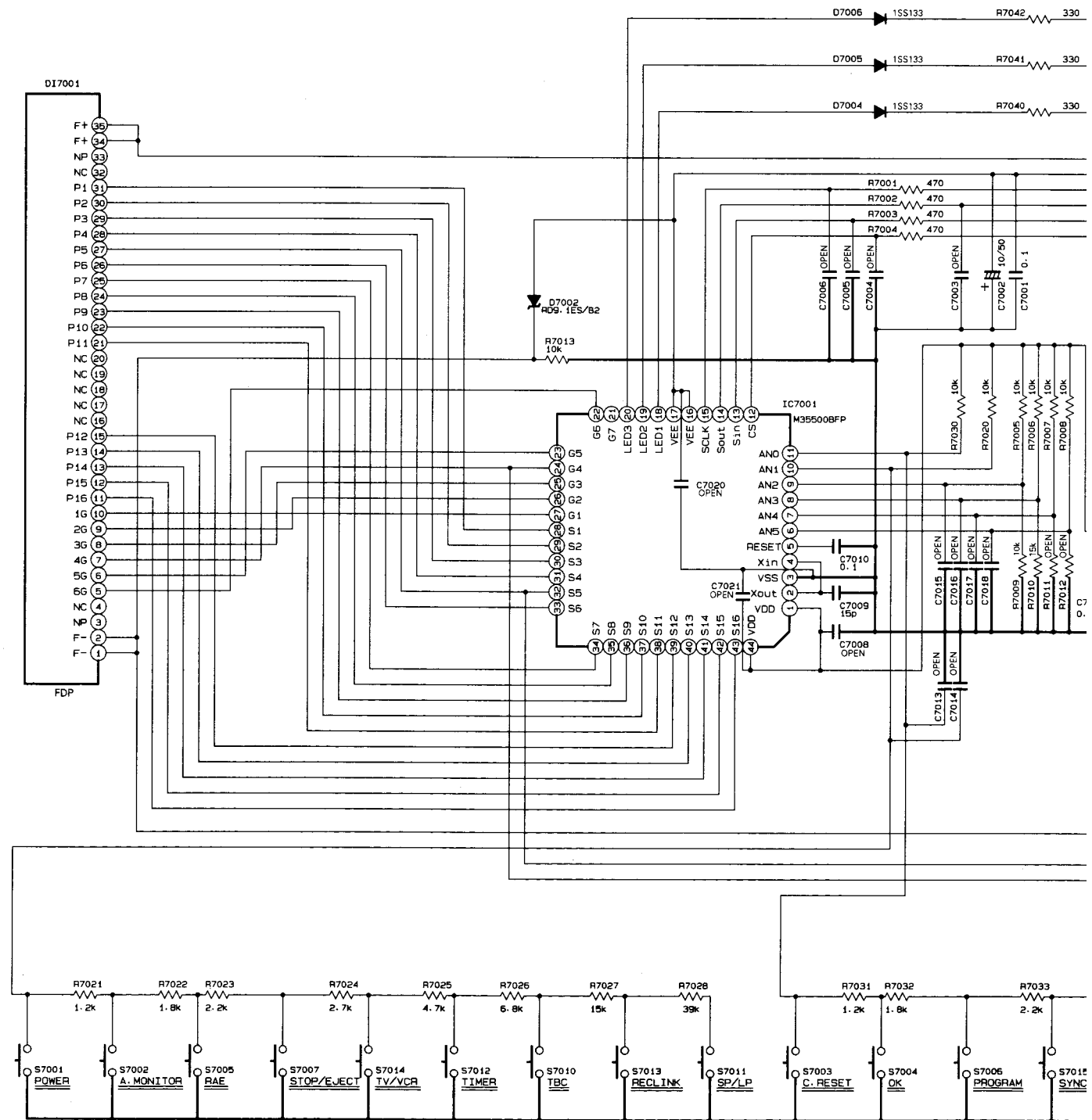


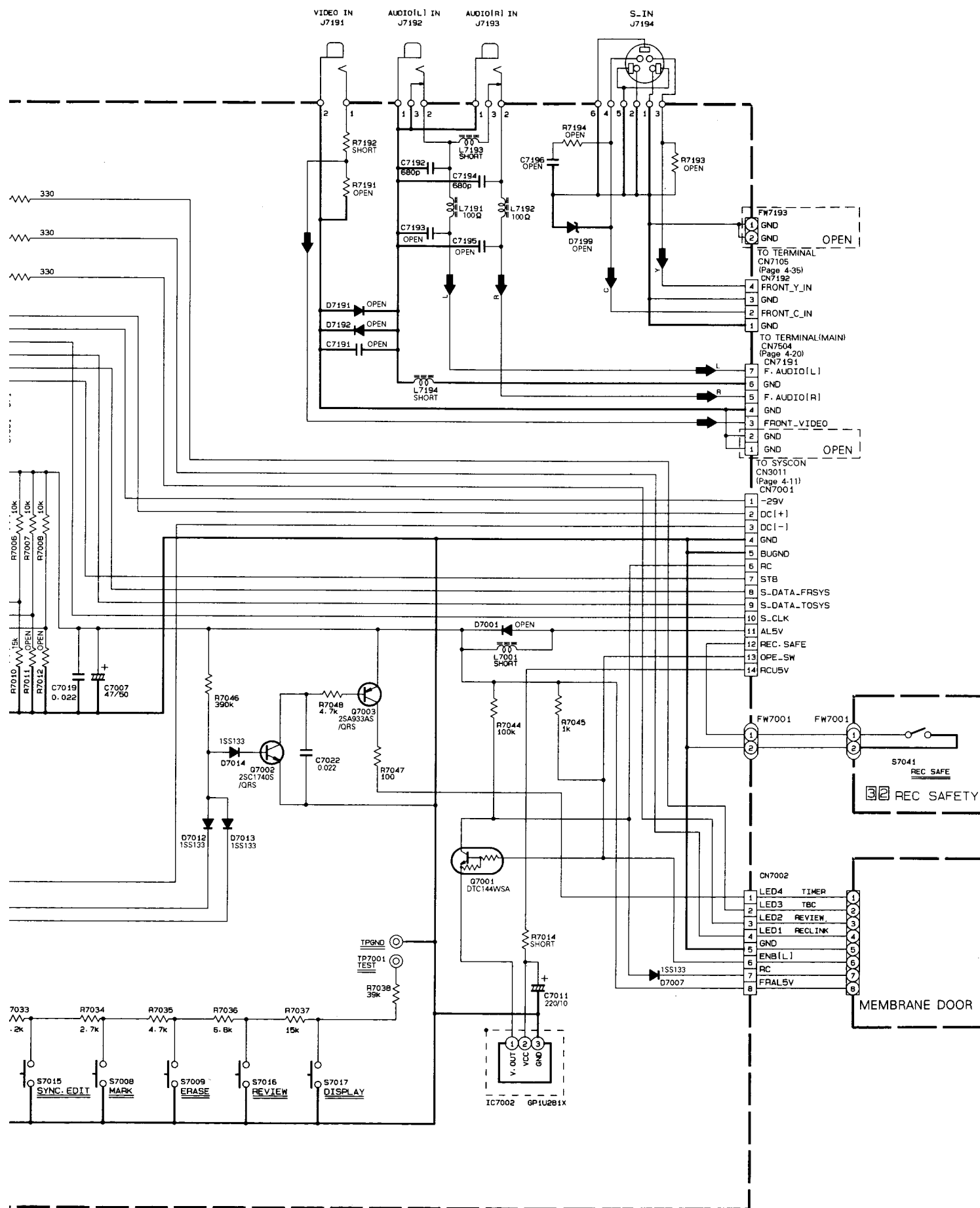
REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION	REF.NO.	LOCATION
CAPACITOR		C7021	A D 6A	COIL		R7023	A D 9A	SWITCH	
C7001	A D 5A	C7022	A D 11B	L7001	A D 1B	R7024	A D 9A	S7001	A D 11B
C7002	A D 2A	CONNECTOR		RESISTOR		R7025	A D 9A	S7002	A D 8A
C7003	A D 1A	CN7001	A D 1A	R7001	A D 4A	R7026	A D 4B	S7003	A D 8A
C7004	A D 4A	DIODE		R7002	A D 5A	R7027	A D 3B	S7004	A D 3A
C7005	A D 4A	D7001	A D 1B	R7003	A D 4A	R7028	A D 3A	S7005	A D 1A
C7006	A D 4A	D7002	A D 7A	R7004	A D 4A	R7030	A D 7A	S7006	A D 1B
C7007	A D 1B	D7003	A D 1A	R7005	A D 7A	R7031	A D 3A	S7007	A D 9B
C7008	A D 6A	D7004	A D 10B	R7006	A D 7A	R7032	A D 2A	S7010	A D 1B
C7009	A D 6A	D7005	A D 4A	R7007	A D 6A	R7033	A D 2B	S7011	A D 11B
C7010	A D 6A	D7006	A D 2A	R7008	A D 6A	R7034	A D 9A	S7012	A D 10B
C7011	A D 1A	D7007	A D 2A	R7009	A D 8A	R7037	A D 9A	S7013	A D 3A
C7012	A D 2A	D7008	A D 10B	R7010	A D 8A	R7038	A D 9A	S7014	A D 8A
C7013	A D 7A	D7010	A D 3A	R7011	A D 8A	R7040	A D 10C	S7015	A D 8A
C7014	A D 7A	D7011	A D 1C	R7012	A D 8A	R7041	A D 3A	S7016	A D 3A
C7015	A D 7A	IC		R7013	A D 7A	R7042	A D 1C	S7017	A D 3A
C7016	A D 7A	IC7001	B C 6A	R7014	A D 1A	OTHER			
C7017	A D 7A	IC7002	A D 2A	R7015	A D 1A	DI7001	A D 6A		
C7018	A D 6A			R7020	A D 7A	FW7001	A D 9A		
C7019	A D 1B			R7021	A D 10B	TP7001	A D 9A		
C7020	A D 5A			R7022	A D 10B	TPGND	A D 9A		



4.21 SWITCH/DISPLAY AND REC SAFETY SCHEMATIC DIAGRAMS [HR-S9600EU]

28 SW/DISPLAY



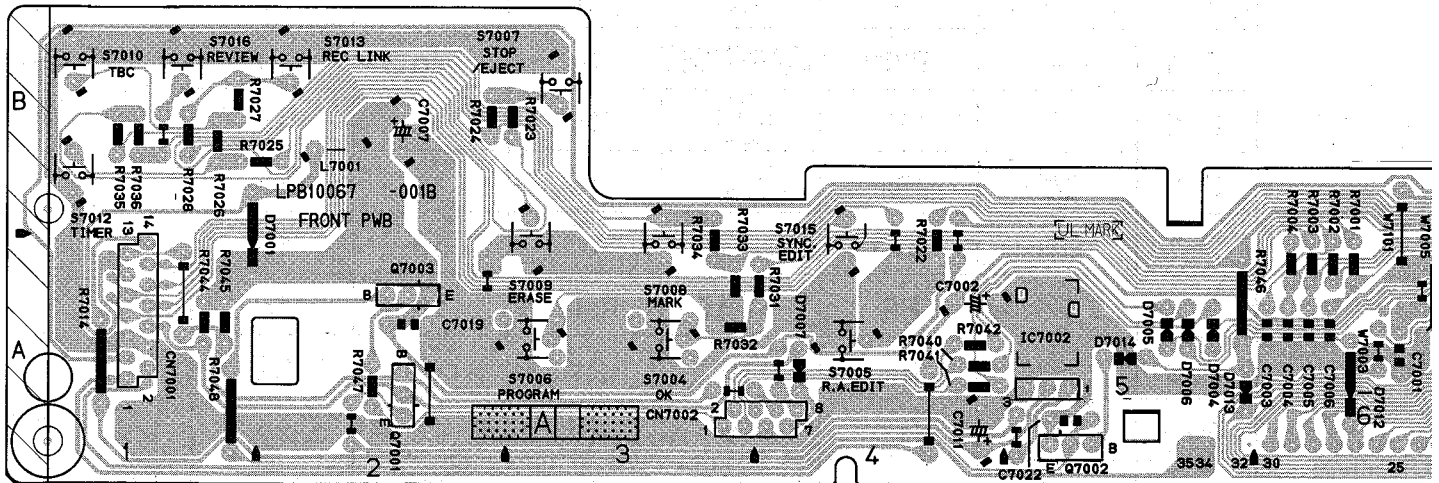


4.22 SWITCH/DISPLAY AND REC SAFETY CIRCUIT BOARDS [HR-S9600EU]

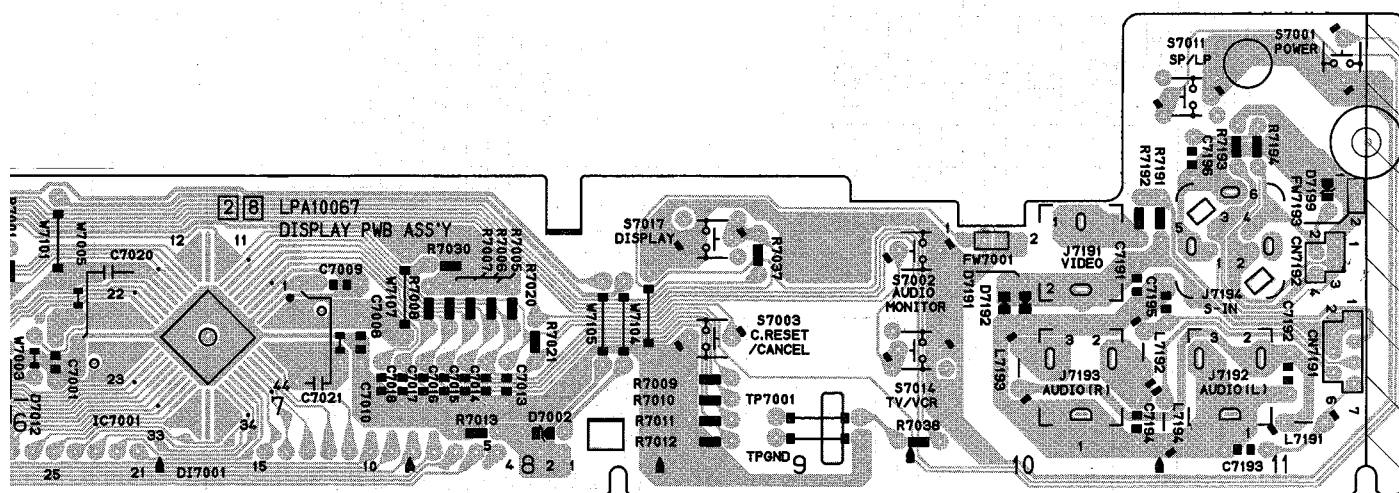
COMPONENT PARTS LOCATION GUIDE (SW/DISPLAY)

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CAPACITOR				C7194	A	D	10A	JACK				R7003	A	D	6A	R7034	A	D	3A	S7007	A	D	3B				
C7001	A	D	6A	C7195	A	D	11A	J7191	A	D	10B	R7004	A	D	6A	R7035	A	D	1B	S7008	A	D	3A				
C7002	A	D	4A	C7196	A	D	11B	J7192	A	D	11A	R7005	A	D	8A	R7036	A	D	1B	S7009	A	D	3A				
C7003	A	D	6A	CONNECTOR				J7193	A	D	10A	R7006	A	D	8A	R7037	A	D	9A	S7010	A	D	1B				
C7004	A	D	6A	CN7001	A	D	1A	J7194	A	D	11B	R7007	A	D	8A	R7038	A	D	9A	S7011	A	D	11B				
C7005	A	D	6A	CN7002	A	D	3A	COIL				R7008	A	D	8A	R7040	A	D	4A	S7012	A	D	1B				
C7006	A	D	6A	CN7191	A	D	11A	L7001	A	D	2B	R7009	A	D	9A	R7041	A	D	4A	S7013	A	D	2B				
C7007	A	D	2B	CN7192	A	D	11B	L7191	A	D	11A	R7010	A	D	9A	R7042	A	D	4A	S7014	A	D	10A				
C7008	A	D	7A	DIODE				L7192	A	D	10A	R7011	A	D	9A	R7044	A	D	1A	S7015	A	D	4A				
C7009	A	D	7A	D7001	A	D	1B	L7193	A	D	10A	R7012	A	D	9A	R7045	A	D	1A	S7016	A	D	1B				
C7010	A	D	7A	D7004	A	D	5A	L7194	A	D	11A	R7013	A	D	8A	R7046	A	D	5A	S7017	A	D	9B				
C7011	A	D	4A	D7005	A	D	5A	TRANSISTOR				R7014	A	D	1A	R7047	A	D	2A	OTHER							
C7013	A	D	8A	D7006	A	D	5A	Q7001	A	D	2A	R7020	A	D	8A	R7048	A	D	1A								
C7014	A	D	8A	D7007	A	D	4A	Q7002	A	D	5A	R7021	A	D	8A	R7191	A	D	11B	DI7001	A	D	7A				
C7015	A	D	8A	D7012	A	D	6A	Q7003	A	D	2A	R7022	A	D	4B	R7192	A	D	10B	D7002	A	D	8A				
C7016	A	D	8A	D7013	A	D	5A	RESISTOR				R7023	A	D	3B	R7193	A	D	11B	FW7001	A	D	10B				
C7017	A	D	8A	D7014	A	D	5A					R7024	A	D	2B	R7025	A	D	2B	R7194	A	D	11B	FW7193	A	D	11B
C7018	A	D	7A	D7191	A	D	10A					R7026	A	D	1B	SWITCH				TP7001							
C7019	A	D	2A	D7192	A	D	10A					R7027	A	D	1B	S7001	A	D	11B					TPGND			
C7020	A	D	6A	D7199	A	D	11B	R7028	A	D	1B	S7002	A	D	10A												
C7021	A	D	7A	IC				R7030	A	D	8A	S7003	A	D	9A												
C7022	A	D	5A	IC7001	B	C	7A	R7031	A	D	4A	S7004	A	D	3A												
C7191	A	D	10A	IC7002	A	D	5A	R7032	A	D	3A	S7005	A	D	4A												
C7192	A	D	11A					R7001	A	D	6A	S7006	A	D	3A												
C7193	A	D	11A					R7002	A	D	6A																

— SWITCH/DISPLAY —

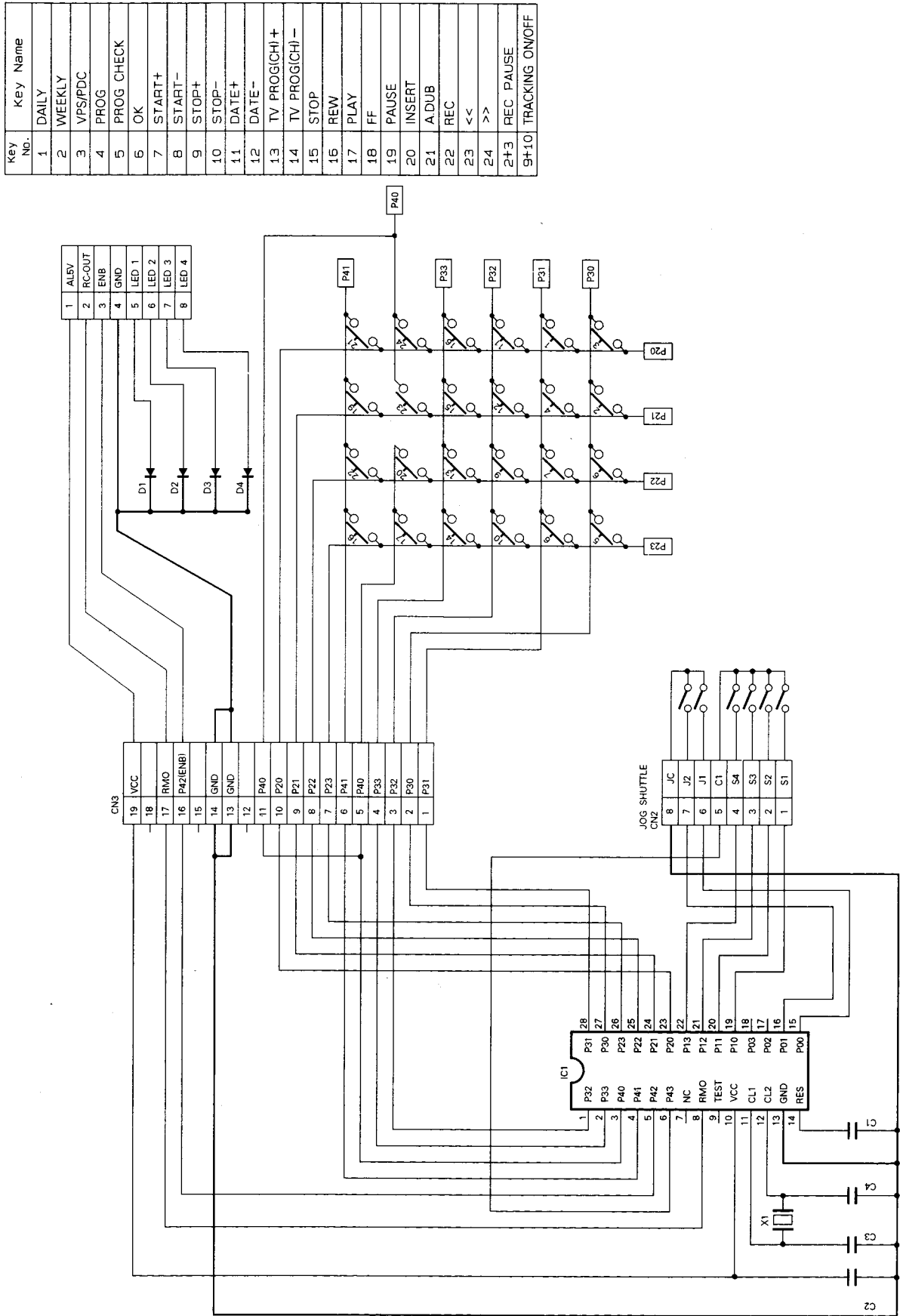


3 2 REC SAFE S7041 LPA10067
LPB10067 -01B2
UL MARK FW7001
FRONT REC SAFE
PWB PWB AY 1 2



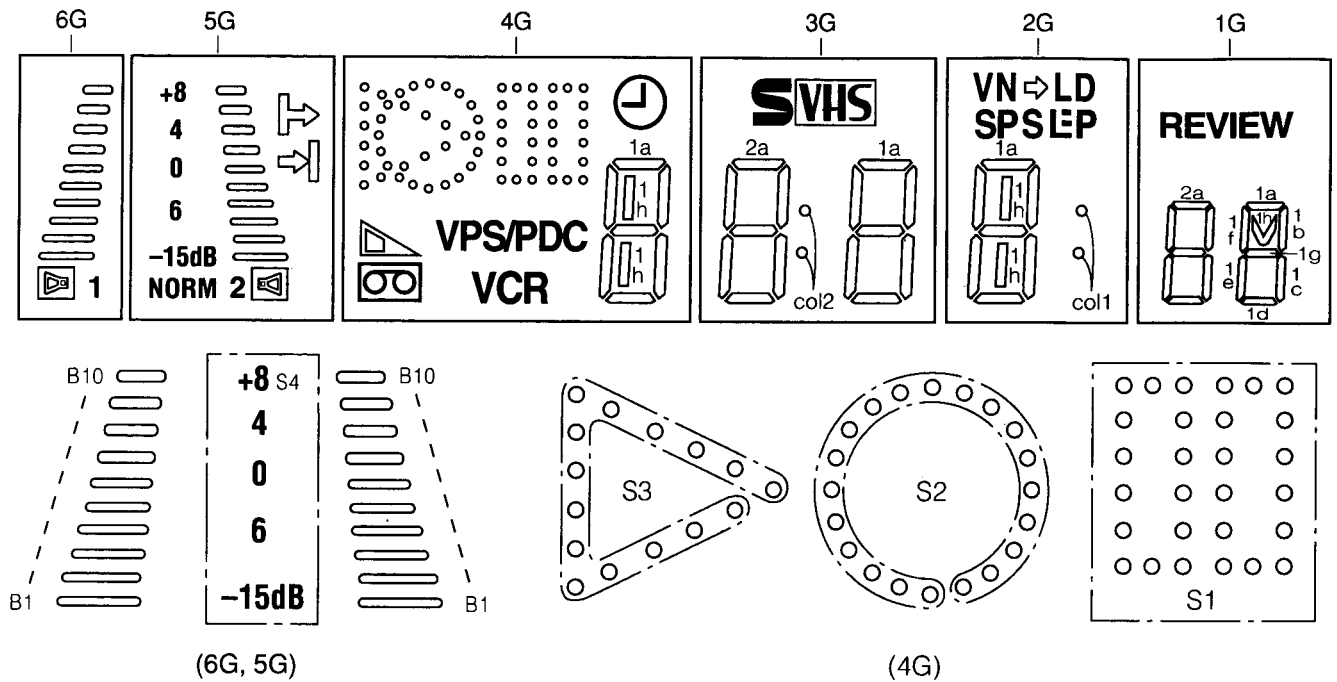
4.23 MEMBRANE DOOR SCHEMATIC DIAGRAM [HR-S9600EU]

NOTES:
1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.



4.24 FDP GRID ASSIGNMENT AND ANODE CONNECTION

GRID ASSIGNMENT



ANODE CONNECTION

	6G	5G	4G	3G	2G	1G
P 1	—	→	S2	1a	1a	1a
P 2	—	←	S1	1b	1b	1b
P 3	—	S4	S3	1f	1f	1f
P 4	—	NORM	VPS/PDC	1g	1g	1g
P 5	1	2	⌚	1c	1c	1c
P 6	⌚	⌚	⌚	1e	1e	1e
P 7	B10	B10	⌚	1d	1d	1d
P 8	B9	B9	VCR	col2	1h	1h
P 9	B8	B8	1a	2a	col1	2a
P10	B7	B7	1b	2b	↔	2b
P11	B6	B6	1f	2f	VN	2f
P12	B5	B5	1g	2g	LD	2g
P13	B4	B4	1c	2c	SP	2c
P14	B3	B3	1e	2e	S _(SEP)	2e
P15	B2	B2	1d	2d	⌚ _(SEP)	2d
P16	B1	B1	1h	SVHS	LP _(SEP)	REVIEW

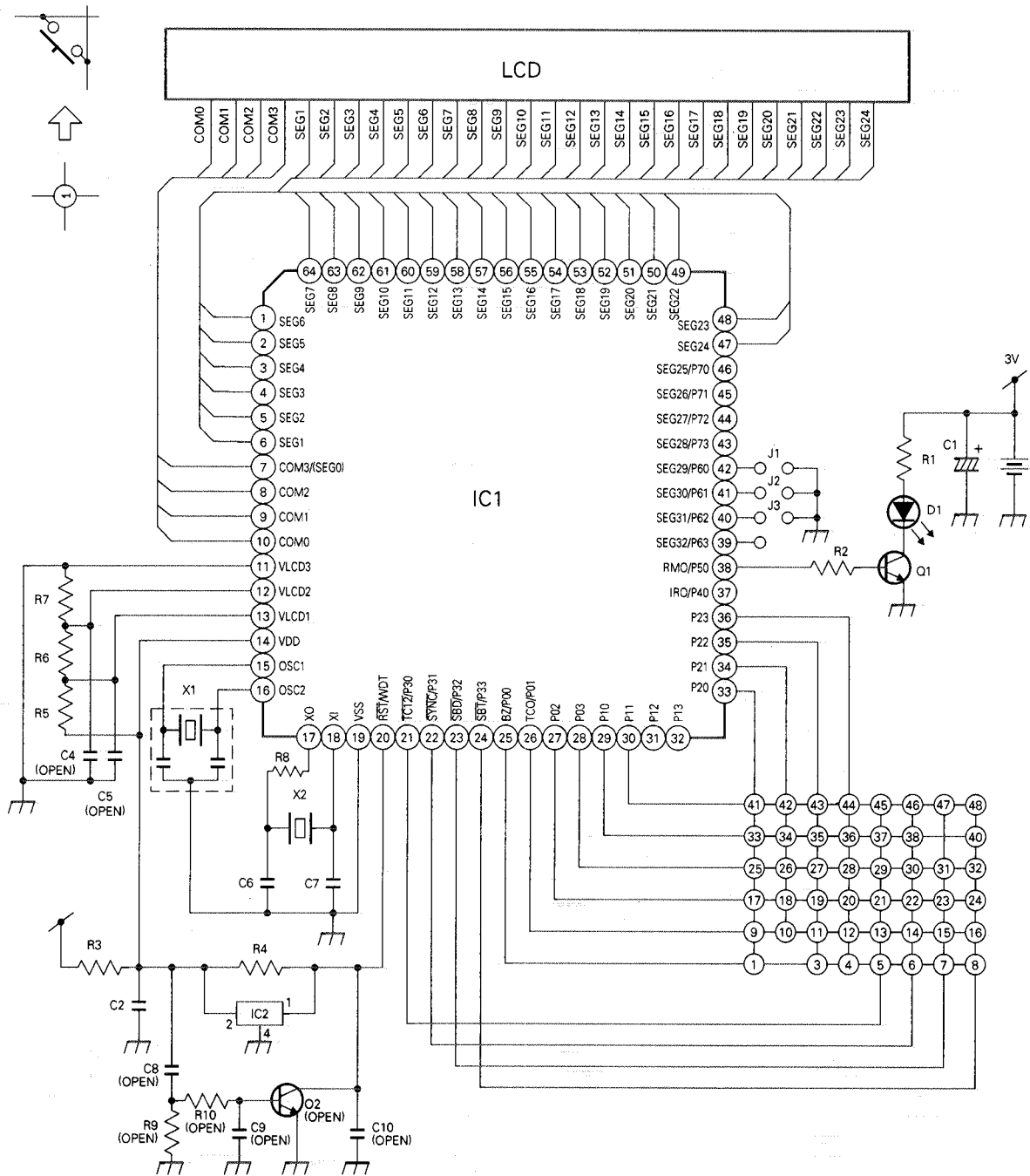
4.25 REMOTE CONTROL SCHEMATIC DIAGRAM

NOTES:

1. All parts shown in this schematic are critical for safety.
2. This schematic is only for reference.
Avoid replacing individual parts.
Replace the entire unit only.

REMOTE CONTROLLER

KEY No.	KEY NAME
1	DATE -
3	FF
4	VCR -
5	START -
6	REW
7	PLAY
8	STOP -
9	9WEEKLY
10	SP/LP/-J
11	TRANS
12	TIMER
13	CANCEL
14	7MPS
15	0/AUX
16	8/DAILY
17	DATE +
18	MENU
19	VCR +
20	OK
21	PROG
22	START +
23	PROG CHECK
24	STOP +
25	6
26	3
27	CM/30 SEC
28	REVIEW
29	1
30	4
31	2
32	5
33	TV CH -
34	TV CH +
35	>>/VOL +
36	PAUSE
37	REC
38	<</VOL -
40	STOP
41	CABLE/SAT
42	DISPLAY/ENTER
43	POWER
44	TV/CR
45	PROGIG Code)
46	VCR
47	AUDIO/MUTE
48	TV
37+7	REC START
37+36	REC PAUSE



A

B

C

D

4.26 VOLTAGE CHARTS

<VIDEO/N.AUDIO>

MODE PIN NO.	REC	PLAY
IC1		
1	2.5	2.5
2	2.5	2.5
3	0	0
4	2.5	2.5
5	0	0
6	2.8	2.8
7	2.5	2.5
8	2.5	2.5
9	2.5	2.5
10	2.5	2.5
11	2.5	2.5
12	5.0	5.0
13	1.9	1.4
14	1.9	1.4
15	2.6	3.0
16	1.5	0.7
17	1.8	1.8
18	2.3	2.3
19	3.1	3.1
20	2.7	2.7
21	2.3	2.3
22	1.9	1.9
23	3.0	3.0
24	2.2	2.2
25	1.4	1.4
26	2.1	2.1
27	0	0
28	4.9	4.9
29	1.6	1.9
30	3.0	3.0
31	2.8	2.8
32	0	0
33	0	0
34	0	0
35	3.0	3.0
36	5.0	5.0
37	0	0
38	5.0	5.0
39	3.3	3.3
40	5.0	5.0
41	5.0	5.0
42	1.9	1.9
43	5.0	5.0
44	2.5	2.5
45	0	0
46	2.0	2.0
47	0	0
48	0	0
49	0	0
50	0.4	0.4
51	0	0
52	1.3	2.4
53	3.0	2.8
54	1.9	1.9
55	2.1	2.1
56	2.8	2.3
57	0	0
58	3.0	3.0
59	3.3	3.3
60	2.1	2.1
61	4.9	4.9
62	4.9	4.9
63	4.9	4.9
64	0	0
65	0.9	2.6
66	4.9	4.9
67	4.9	4.9
68	0	0
69	2.8	2.8
70	2.7	2.7
71	2.1	2.1
72	2.3	2.1
73	-	-
74	2.7	1.1
75	-	-

MODE PIN NO.	REC	PLAY
76	2.3	2.3
77	4.5	4.5
78	2.7	2.7
79	4.3	2.1
80	0	0
81	-	-
82	1.2	1.2
83	2.3	2.3
84	0	1.3
85	0	0
86	2.3	2.3
87	2.2	2.2
88	2.3	2.3
89	2.3	2.3
90	4.9	4.9
91	0	0
92	0	0
93	0	0
94	0	0
95	0.5	0.5
96	5.0	5.0
97	0.3	0
98	5.0	5.0
99	0.5	2.5
100	2.5	2.5
IC2		
1	2.7	2.7
2	0	0
3	2.7	2.7
4	4.9	0
5	2.7	2.7
6	5.0	5.0
7	2.0	2.0
8	0	0
Q1		
E	3.4	3.4
C	0	0
B	2.7	2.7
Q2		
E	0	-
C	2.1	-
B	0	-
Q6		
E	2.7	2.7
C	0	0
B	2.1	2.1
Q13		
E	1.1	1.1
C	3.9	3.9
B	1.7	1.7
Q14		
E	3.2	3.2
C	4.9	4.9
B	3.9	3.9
Q15		
E	3.8	3.8
C	0	0
B	3.2	3.2
Q16		
E	4.9	4.9
C	4.9	0
B	0.2	5.0
Q17		
E	0	0
C	0	0
B	3.0	3.0
Q18		
E	0	0
C	0	0
B	3.0	3.0
Q47		
E	4.9	4.9
C	2.3	2.3
B	2.8	2.8
Q48		
E	1.9	1.9

MODE PIN NO.	REC	PLAY
C	0	0
B	1.0	1.0
Q49		
E	2.1	2.1
C	4.9	4.9
B	2.8	2.8
Q55		
E	0	0
C	0	0
B	3.0	3.0
Q152		
E	5.0	2.7
C	0	0
B	4.5	2.1
Q153		
E	2.1	2.1
C	4.9	4.9
B	2.7	2.7
Q401		
E	11.5	-
C	11.5	-
B	10.8	11.5
Q402		
E	0	-
C	0	11.5
B	4.9	0
Q403		
E	0	-
C	0	-
B	4.9	-
Q404		
E	7.7	0
C	0	-
B	7.1	0
Q405		
E	10.0	0
C	0	-
B	9.5	0
Q2001		
E	-19.0	0
C	0	0
B	-25.3	0.7
Q2002		
E	-19.0	0
C	0	0
B	-24.9	0.7
Q2003		
E	5.0	5.0
C	-25.1	4.9
B	5.0	0
Q2051		
E	0	0
C	8.1	0.2
B	0	0.2
Q2052		
E	11.5	11.5
C	11.3	1.1
B	10.7	11.5
Q2053		
E	0	0
C	0	11.4
B	4.5	0
Q2054		
E	11.3	1.1
C	11.2	0
B	10.5	1.1
Q2055		
E	0	0
C	0	1.1
B	5.0	0
Q2061		
E	0	0
C	7.9	0.2
B	0	0.2
Q2062		
E	11.2	0

MODE PIN NO.	REC	PLAY
C	11.1	0.2
B	10.4	0
Q2063		
E	0	0
C	0	0
B	5.0	0
Q2102		
E	0	-
C	0	-
B	4.9	-
CN1		
1	0	-
2	0	-
3	0	-
4	0	-
5	2.3	-
6	2.3	-
7	2.4	-
8	2.4	-
9	2.5	-
10	2.5	0
11	2.5	0
12	0	0
13	0	0
CN101		
1	0	0
2	-	-
3	4.8	4.8
4	-	-
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	0.5	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN102		
1	1.4	1.1
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.3	2.3
10	5.0	5.0
11	2.4	2.4
12	2.9	2.9
13	0	0
14	0	0
15	2.3	2.3
16	0	0
17	4.9	4.9
18	4.9	4.9
19	4.9	4.9
20	5.0	5.0

MODE PIN NO.	REC	PLAY
21	2.3	2.3
22	0	0
23	2.3	2.3
24	0	0
25	0	0
26	2.4	2.4
27	1.8	1.8
28	0	0
29	0	0
30	0	0
CN2001		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	2.2	2.5
7	2.5	2.5
CN2002		
1	0	0
2	0	0

<ON SCREEN>

MODE PIN NO.	REC	PLAY
IC201		
1	0	0
2	2.7	2.7
3	5.0	5.0
4	0	0
5	4.7	4.7
6	2.5	2.5
7	2.5	2.5
8	5.0	5.0
9	3.0	3.0
10	4.5	4.5
11	1.2	1.2
12	5.0	5.0
13	2.9	2.9
14	2.9	2.9
15	0	0
16	1.2	1.2
17	0	0
18	5.0	5.0
19	2.3	2.3
20	0	0
21	2.3	2.3
22	0.5	0.5
23	5.0	5.0
24	2.9	2.9
25	2.5	2.5
26	5.0	5.0
27	4.7	4.7
28	3.7	3.7
29	5.0	5.0
30	5.0	5.0
Q207		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q208		
E	2.3	2.3
C	5.0	5.0
B	3.0	3.0

<FMA>

MODE PIN NO.	REC	PLAY
IC2201		
1	2.4	2.4
2	0	0
3	2.4	2.4

MODE PIN NO.	REC	PLAY
4	0	0
5	0	0
6	2.5	2.5
7	2.0	2.0
8	0	0
9	0	0
10	0	0
11	0	0
12	2.0	2.0
13	0	0
14	0	0
15	0	0
16	2.5	2.5
17	0.6	0.3
18	2.5	2.5
19	2.5	2.5
20	2.5	0.1
21	2.5	0
22	2.6	0.6
23	0	0
24	2.5	0.7
25	4.9	4.9
26	2.6	0
27	0	-
28	4.2	0
29	4.4	1.8
30	4.4	1.7
31	1.0	3.0
32	2.5	2.5
33	2.5	2.5
34	0.7	0.3
35	2.5	2.5
36	0	0.2
37	1.7	1.7
38	0	0
39	0	0
40	5.0	5.0
41	0	0
42	5.0	5.0
43	4.9	4.9
44	3.2	3.2
45	0	0
46	4.8	4.8
47	2.5	2.5
48	2.5	2.5
49	3.4	2.8
50	1.3	2.9
51	0	0
52	0	0
53	4.4	4.4
54	0	0
55	0	0
56	0	0
57	4.4	4.4
58	10.0	10.0
59	4.5	4.5
60	0	0.8
61	2.5	2.5
62	2.4	2.4
63	4.4	4.4
64	4.5	4.5
Q2151		
E	4.9	4.9
C	5.0	5.0
B	2.1	2.1
Q2152		
E	5.0	5.0
C	4.9	4.9
B	0	0.2
Q2201		
E	0	0
C	0	0
B	0	0
Q2202		
E	0	0
C	0	0

MODE PIN NO.	REC	PLAY
B	0	0
Q2203		
E	5.2	5.2
C	0	0
B	5.1	5.1
Q2204		
E	0	0
C	5.1	5.1
B	0	0.2
Q2253		
E	0	0
C	0	0
B	4.6	4.6
Q2255		
E	0	0
C	0	0
B	4.2	4.2
Q2256		
E	0	0
C	4.2	4.2
B	0	0
Q2258		
E	4.5	0
C	4.4	1.7
B	0.2	5.0

<SYSTEM CONTROL>

MODE PIN NO.	REC	PLAY
IC3001		
1	2.8	2.5
2	0	0
3	1.9	2.5
4	2.5	2.5
5	2.5	2.5
6	2.6	2.6
7	2.5	2.5
8	2.5	2.5
9	5.1	5.1
10	5.1	5.1
11	0	0
12	0	0.2
13	0	1.1
14	4.6	4.6
15	5.1	5.1
16	1.3	2.9
17	0	0.7
18	0	0
19	3.4	2.8
20	0.2	0.2
21	4.1	4.1
22	4.2	0
23	0	0
24	5.0	5.0
25	0	0
26	5.1	5.1
27	5.1	5.1
28	5.1	5.1
29	5.1	5.1
30	0	0
31	5.1	5.1
32	0	0
33	0	0
34	0	0
35	0	0
36	0	0
37	5.0	5.0
38	1.8	1.8
39	4.5	4.5
40	0	0
41	5.1	5.1
42	4.6	4.6
43	0	0

MODE PIN NO.	REC	PLAY
44	0	0
45	5.1	5.1
46	5.1	0
47	0	0
48	5.1	0
49	4.9	4.9
50	4.9	4.9
51	5.1	5.1
52	1.0	1.0
53	4.5	4.5
54	-	-
55	-	-
56	0	0
57	0	0
58	5.0	5.0
59	3.0	3.0
60	0	0
61	0	0
62	0	0
63	0	0
64	-	-
65	-	-
66	5.1	5.1
67	-	-
68	0	0
69	-	-
70	5.1	5.1
71	5.1	5.1
72	5.0	5.0
73	5.1	5.1
74	0	0
75	4.7	4.7
76	4.7	4.7
77	3.1	3.1
78	5.1	0
79	0	5.1
80	0	0
81	0	0
82	5.1	5.1
83	-	-
84	0	0
85	0	0
86	4.7	4.7
87	5.1	5.1
88	4.8	0
89	0	0
90	0	0
91	3.0	3.0
92	5.0	5.0
93	5.1	5.1
94	5.1	5.1
95	5.1	5.1
96	0	0
97	5.1	5.1
98	0.2	0.2
99	0	-
100	-	-
101	2.5	2.5
102	1.2	1.2
103	0	0
104	0	0
105	5.1	5.1
106	5.0	5.0
107	0	0
108	1.6	1.6
109	5.1	5.1
110	0	0
111	0	0
112	2.5	2.5
IC3002		
1	5.1	5.1
2	5.0	5.0
3	0	0
IC3003		
1	0	0
2	0	0

MODE PIN NO.	REC	PLAY
3	0	0
4	0	0
5	4.7	4.7
6	4.7	4.7
7	0	0
8	5.1	5.1
IC3004		
1	0	0
2	12.2	12.2
3	-	0
4	0	0
5	0	0
6	12.2	12.2
7	0	0.3
8	12.2	12.2
9	0	0
IC3301		
1	5.0	-
2	5.0	-
3	0	-
4	0	5.0
5	3.0	-
6	3.0	-
7	5.0	-
8	5.0	0
9	0	-
10	0	-
11	5.0	-
12	5.0	-
13	4.7	-
14	4.7	-
15	0	-
16	0	-
17	5.0	-
18	5.0	-
19	2.2	-
20	2.3	-
21	0	-
22	0	-
23	0	-
24	0	-
25	5.0	-
26	0	-
27	0	-
28	0	-
29	0	-
30	0	-
31	5.0	0
32	5.0	0
33	0	-
34	0	-
35	0	-
36	0	-
37	0	-
38	0	-
39	0	-
40	0	-
41	0.5	0.7
42	2.2	-
IC3501		
1	0	-
2	12.3	-
3	3.0	0.3
4	0.8	-
5	0	-
6	12.3	-
7	3.0	0.3
8	3.5	-
9	0	-
Q3001		
E	0	0
C	12.2	12.2
B	0	0
Q3002		
E	0	0
C	4.8	4.7

MODE PIN NO.	REC	PLAY
Q3003		
E	0	0
C	5.0	5.0
Q3004		
E	0	0
C	0	0
B	0.7	0.7
Q3005		
E	5.1	5.1
C	5.8	5.8
B	5.7	5.7
Q3007		
E	0	0
C	0	0
B	0	0
Q3008		
E	0	0
C	4.9	4.9
B	0	0
Q3501		
E	3.4	-
C	3.5	-
B	4.1	-
Q4001		
E	0	0
C	0	0
B	5.0	5.0
CN3001		
1	11.5	11.5
2	0	0
3	1.3	1.3
4	0	0
5	1.6	1.6
CN3002		
1	0	0.4
2	0	0.4
CN3003		
1	0	0
2	2.5	2.5
3	2.5	2.5
4	5.0	5.0
5	0	0
6	5.1	5.1
7	0	0
8	11.5	11.5
CN3004		
1	5.1	5.1
2	5.1	5.1
3	0	0
4	0	0
CN3011		
1	5.1	5.1
2	0	0
3	5.1	5.1
4	5.1	5.1
5	4.5	4.5
6	5.1	5.1
7	1.1	1.1
8	4.3	4.5
9	5.1	5.1
10	0	0
11	0	0
12	-19.5	-19.5
13	-15.7	-15.7
14	-28.4	-28.4
CN3012		
1	0.5	0.5
2	0.5	0.5
3	0	0
4	0	0
5	0	0
6	0	0
CN3501		
1	0	-
2	0	-
3	0	-

MODE PIN NO.	REC	PLAY
4	5.0	-
5	0.5	-
6	0.4	-

<SW. REG>

MODE PIN NO.	REC	PLAY
IC5301		
1	5.8	5.8
2	5.0	5.0
3	4.9	4.9
4	0	0
5	12.2	12.2
6	11.5	11.5
7	12.2	12.2
8	1.2	1.2
9	1.2	1.2
10	10.8	10.8
Q5101		
S	0	0
D	160.7	157.0
G	-	-
Q5102		
E	0	0
C	-	-
B	-	-
Q5301		
E	21.0	21.0
C	11.5	11.5
B	21.0	21.0
Q5302		
E	0	0
C	20.9	21.1
B	0	0
Q5303		
E	5.2	5.2
C	5.8	5.8
B	5.8	5.8
Q5304		
E	11.5	11.5
C	12.3	12.3
B	12.2	12.2
Q5305		
E	12.2	12.2
C	12.2	12.2
B	0.6	0.6
Q5306		
E	12.2	12.2
C	11.5	11.5
B	10.9	10.9
Q5310		
E	0	0
C	0	0
B	4.6	4.6
Q5311		
E	32.1	32.1
C	32.1	32.1
B	31.5	31.5
Q5312		
E	-15.4	-15.4
C	-15.6	-15.6
B	-16.1	-16.1

<TUNER>

MODE PIN NO.	REC	PLAY
IC6080		
1	1.2	1.2
2	1.7	1.7
3	2.9	2.9

MODE PIN NO.	REC	PLAY
4	0	0
5	4.1	4.1
6	4.1	4.1
7	4.1	4.1
8	11.5	11.5
Q6030		
E	0.7	0.7
C	0	0
B	0	0
Q6031		
E	0	0
C	0	0
B	5.0	5.0
Q6032		
E	0	0
C	0	0
B	4.3	4.3
CN6701		
1	-	-
2	4.7	4.7
3	4.7	4.7
4	0	0
5	4.9	4.9
6	11.5	11.5
7	0	0
8	0	0
9	0	0
10	2.4	2.4
11	0	0
12	4.4	4.4

<C.BOX CTL>

MODE PIN NO.	REC	PLAY
IC3961		
1	0	-
2	5.0	-
3	5.0	-
4	0	-
5	5.0	-
6	5.0	-
7	5.0	0
8	5.0	-
IC3962		
1	0	-
2	5.0	-
3	5.0	-
4	0	-
5	5.0	-
6	5.0	-
7	0	-
8	5.0	-

<TERMINAL(MAIN)>

MODE PIN NO.	REC	PLAY
CN7501		
1	0.2	5.0
2	0	0
3	0	0
4	2.3	2.3
5	0	0
6	1.2	1.2
7	11.5	11.5
8	0.7	0.7
9	11.5	11.5
CN7502		
1	0	0
2	0	0
3	0	0
4	0	0

MODE PIN NO.	REC	PLAY
5	0	0
6	0	0
7	4.8	4.8
8	4.7	4.7
9	5.1	5.1
10	5.1	5.1
CN7503		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
CN7504		
1	0	0
2	0	0
3	0	0
4	0	0
5	0	0

<VSC>

MODE PIN NO.	REC	PLAY
IC2501		
1	0	-
2	0	-
3	0	-
4	0	-
5	0	-
6	0	-
7	0	-
8	0	-
9	0	-
10	4.5	2.1
11	5.0	2.6
12	0	-
13	0	-
14	0	-
15	0	-
16	0	-
17	0	-
18	5.0	-
19	0	1.6
20	5.0	-
21	0	-
22	0	-
23	0	-
24	5.0	-
25	5.0	-
26	5.0	-
27	5.0	-
28	5.0	-
29	5.0	-
30	5.0	-
31	5.0	-
32	0	-
33	2.2	-
34	0.4	0.6
35	0	-
36	0	-
37	5.0	-
38	0	-
39	0	-
40	0	-
41	0	-
42	0	-
43	2.5	-
44	0	-
45	2.5	-

MODE PIN NO.	REC	PLAY
46	2.5	-
47	2.5	-
48	2.5	-
49	2.5	-
50	2.5	-
51	2.5	-
52	2.5	-
53	5.0	-
54	0	0.5
55	1.0	0
56	0	-
57	0	-
58	5.0	-
59	5.0	-
60	5.0	0
61	5.0	-
62	0	-
63	0	-
64	0	-
Q2501		
E	0	-
C	0	-
B	0	0.5
Q2502		
E	0	-
C	0	0.4
B	5.0	0

<3D SVHS (VIDEO)>

MODE PIN NO.	REC	PLAY
IC1001		
1	3.0	3.0
2	0	3.9
3	2.2	2.2
4	1.8	1.8
5	2.9	2.9
6	2.8	2.8
7	2.3	2.3
8	3.0	3.0
9	2.3	2.3
10	2.8	2.8
11	2.8	2.8
12	2.2	2.2
13	4.9	4.9
14	4.9	4.9
15	2.5	2.5
16	3.0	2.8
17	0	0
18	2.9	2.1
19	0.5	1.1
20	0	0.4
21	2.3	2.3
22	2.8	2.8
23	2.3	2.3
24	0	0
25	3.4	3.4
26	2.1	2.1
27	2.8	2.8
28	2.8	2.8
29	2.8	2.8
30	0	0
31	2.8	2.8
32	0	0
33	2.8	2.8
34	4.9	4.9
35	2.8	2.8
36	1.9	1.9
37	3.1	3.1
38	2.9	2.9
39	2.4	2.4
40	2.7	2.7
41	2.9	2.9

MODE PIN NO.	REC	PLAY
42	2.8	2.8
43	3.1	3.1
44	2.2	2.2
45	0	0
46	2.8	2.8
47	1.9	1.1
48	2.8	2.8
49	4.9	4.9
50	2.8	2.8
51	4.9	4.9
52	2.8	2.8
53	1.9	1.9
54	2.6	3.6
55	0	0
56	2.3	2.3
IC1002		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
IC1006		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	2.7	2.7
12	1.5	1.5
13	0.8	0.8
14	3.3	3.3
15	3.4	3.2
16	1.3	1.3
17	4.0	4.0
18	1.1	1.1
19	4.8	4.8
20	0.7	0.7
IC1007		
1	-	-
2	-	-
3	-	-
4	-	-
5	2.2	2.2
6	2.0	2.0
7	3.7	3.7
8	4.9	4.9
Q1004		
E	-	-
C	-	-
B	-	-
Q1005		
E	0	0
C	0	0
B	2.6	2.6
Q1006		
E	3.9	3.9
C	0	0
B	3.3	3.3

MODE PIN NO.	REC	PLAY
Q1007		
E	1.4	1.4
C	3.5	3.5
B	2.1	2.1
Q1012		
E	2.5	2.5
C	4.9	4.9
B	3.2	3.2
Q1014		
E	0	0
C	1.2	1.2
B	0.6	0.6
Q1015		
E	0.6	0.6
C	3.2	3.2
B	1.3	1.3
Q1016		
E	-	-
C	-	-
B	-	-
Q1021		
E	3.0	3.0
C	0	0
B	2.4	2.4
Q1022		
E	0	0
C	4.4	0
B	0.3	3.9
CN1001		
1	0	0
2	-	-
3	4.8	4.8
4	-	-
5	4.9	4.9
6	0	0
7	0	0
8	0	0
9	0.5	0
10	0	0
11	0	0
12	0	0
13	5.0	5.0
14	4.9	4.9
15	0	0
16	0	0
17	0.4	0.4
18	0	0
19	3.4	3.4
20	0	0
21	0	0
22	2.1	2.1
23	0	0
24	0	0
25	0	0
26	0	0
27	0	0
28	0	0
29	0	0
30	0	0
CN1002		
1	1.4	1.1
2	0	0
3	0	0
4	0	0
5	0	0
6	0	0
7	1.4	1.1
8	1.9	1.9
9	1.3	2.3
10	5.0	5.0
11	2.4	2.4
12	2.9	2.9
13	0	0
14	0	0
15	2.3	2.3
16	0	0

MODE PIN NO.	REC	PLAY
17	4.9	4.9
18	4.9	4.9
19	4.9	4.9
20	5.0	5.0
21	2.3	2.3
22	0	0
23	2.3	2.3
24	0	0
25	0	0
26	2.4	2.4
27	1.8	1.8
28	0	0
29	0	0
30	0	0
CN1003		
1	2.1	2.1
2	0	0
3	2.3	2.3
4	0	0
5	5.7	5.7
6	0	0
7	5.6	5.6

<3D SVHS (3D/TBC)>

MODE PIN NO.	REC	PLAY
IC1401		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
29	-	-
30	-	-
31	-	-
32	-	-
33	-	-
34	-	-
35	-	-
36	-	-
37	-	-
38	-	-
39	-	-
40	-	-
41	-	-
42	-	-
43	-	-
44	-	-
45	-	-

MODE PIN NO.	REC	PLAY
46	-	-
47	-	-
48	-	-
49	-	-
50	-	-
51	-	-
52	-	-
53	-	-
54	-	-
55	-	-
56	-	-
57	-	-
58	-	-
59	-	-
60	-	-
61	-	-
62	-	-
63	-	-
64	-	-
65	-	-
66	-	-
67	-	-
68	-	-
69	-	-
70	-	-
71	-	-
72	-	-
73	-	-
74	-	-
75	-	-
76	-	-
77	-	-
78	-	-
79	-	-
80	-	-
81	-	-
82	-	-
83	-	-
84	-	-
85	-	-
86	-	-
87	-	-
88	-	-
89	-	-
90	-	-
91	-	-
92	-	-
93	-	-
94	-	-
95	-	-
96	-	-
97	-	-
98	-	-
99	-	-
100	-	-
IC1402		
1	-	-
2	-	-
3	-	-
4	-	-
5	-	-
6	-	-
7	-	-
8	-	-
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	-	-
17	-	-
18	-	-
19	-	-
20	-	-

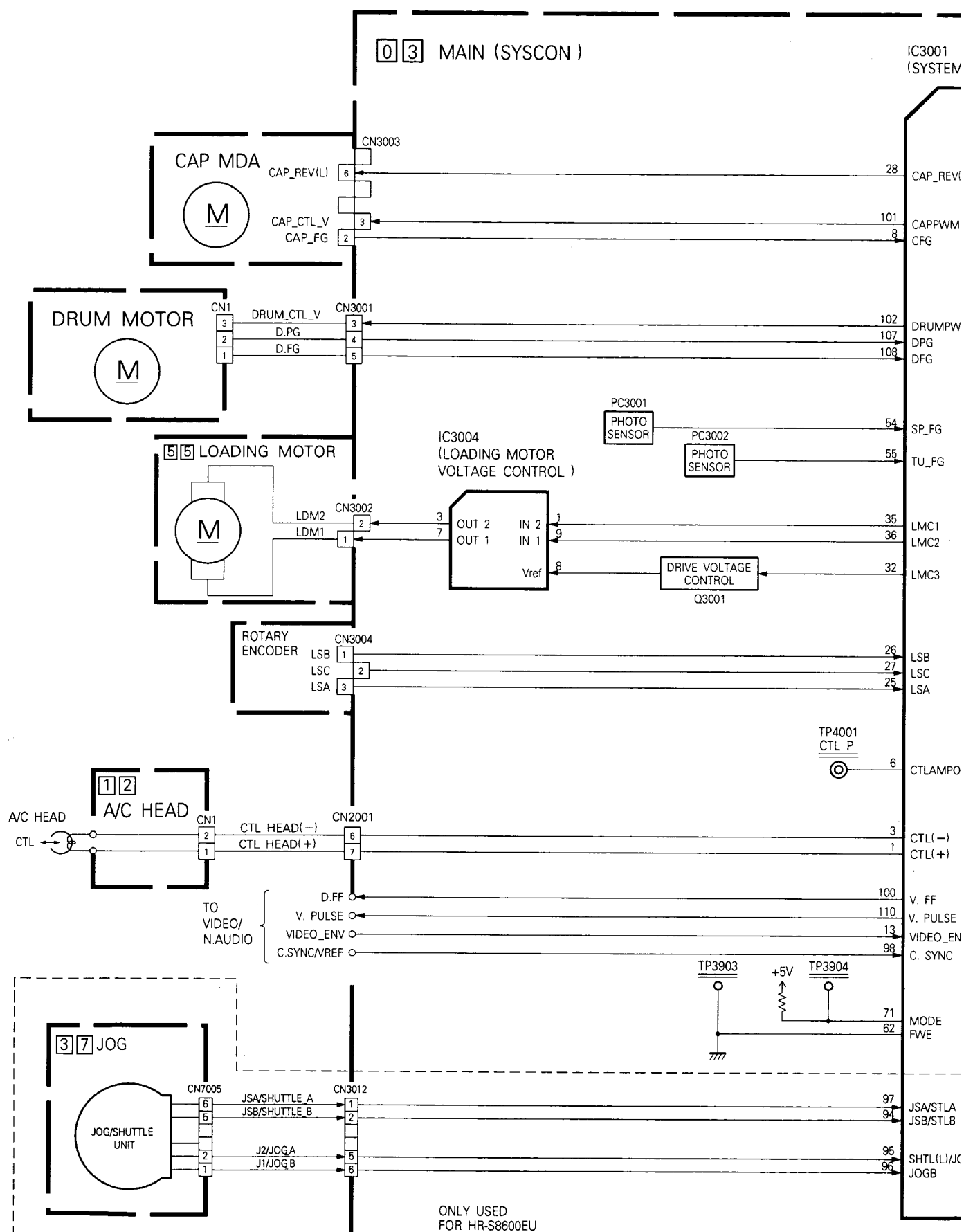
MODE PIN NO.	REC	PLAY
21	-	-
22	-	-
23	-	-
24	-	-
25	-	-
26	-	-
27	-	-
28	-	-
Q1401		
E	-	-
C	-	-
B	-	-
Q1402		
E	-	-
C	-	-
B	-	-
Q1403		
E	-	-
C	-	-
B	-	-
Q1404		
E	-	-
C	-	-
B	-	-
Q1405		
E	-	-
C	-	-
B	-	-
Q1406		
E	-	-
C	-	-
B	-	-
Q1407		
E	-	-
C	-	-
B	-	-
Q1408		
E	-	-
C	-	-
B	-	-
Q1409		
E	-	-
C	-	-
B	-	-
Q1410		
E	-	-
C	-	-
B	-	-
Q1411		
E	-	-
C	-	-
B	-	-
Q1412		
E	-	-
C	-	-
B	-	-
Q1413		
E	-	-
C	-	-
B	-	-
Q1414		
E	-	-
C	-	-
B	-	-
Q1416		
E	-	-
C	-	-
B	-	-
Q1417		
E	-	-
C	-	-
B	-	-
Q1418		
E	-	-
C	-	-
B	-	-

<TERMINAL>

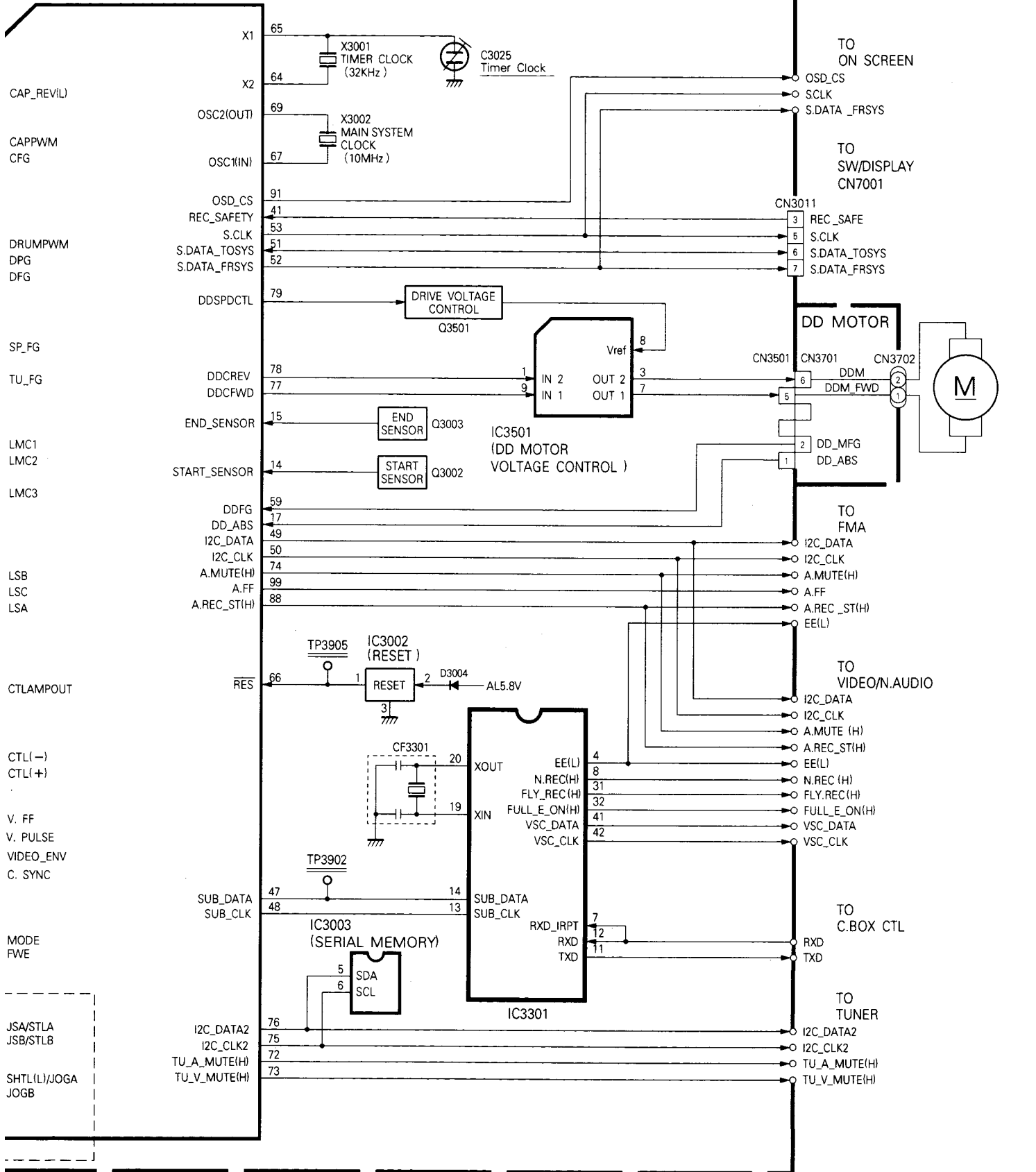
TERMINALS		
MODE PIN NO.	REC	PLAY
IC7101		
1	1.6	1.6
2	0	0
3	1.6	1.6
4	11.5	11.5
5	2.0	2.0
6	0	0
7	5.1	5.1
8	11.5	11.5
9	5.1	5.1
10	5.2	5.2
11	5.1	5.1
12	0	0
13	4.8	4.8
14	4.8	4.8
15	5.8	5.8
16	5.1	5.1
17	5.8	5.8
18	5.1	5.1
19	11.5	11.5
20	2.5	2.5
21	1.4	1.1
22	1.4	1.1
23	2.5	2.5
24	2.0	2.0
IC7102		
1	6.4	6.4
2	5.2	5.2
3	5.7	5.7
4	0	0
5	5.7	5.7
6	5.7	5.7
7	0	0
8	6.4	6.4
9	-	-
10	-	-
11	-	-
12	-	-
13	-	-
14	-	-
15	-	-
16	6.4	6.4
Q7102		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q7103		
E	2.8	2.8
C	0	0
B	2.1	2.1
Q7104		
E	3.0	3.0
C	0	0
B	2.3	2.3
Q7107		
E	-	-
C	-	-
B	-	-
Q7108		
E	-	-
C	-	-
B	-	-
Q7109		
E	-	-
C	-	-
B	-	-
Q7110		
E	-	-
C	-	-
B	-	-
Q7111		
E	0	0
C	6.2	6.2
B	0	0
Q7112		
E	0.6	0.6

[illegible]

4.27 SYSTEM CONTROL BLOCK DIAGRAM

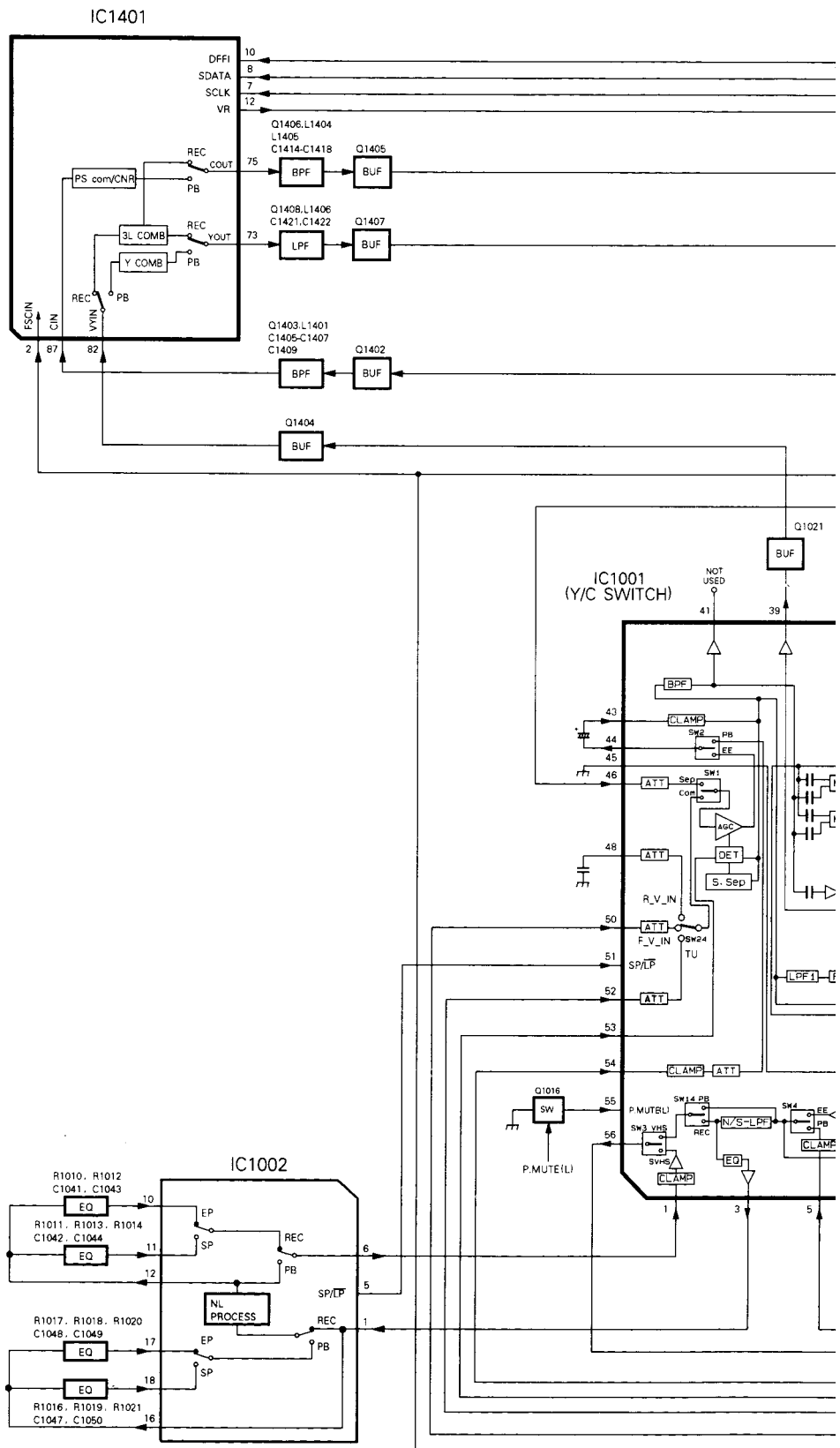


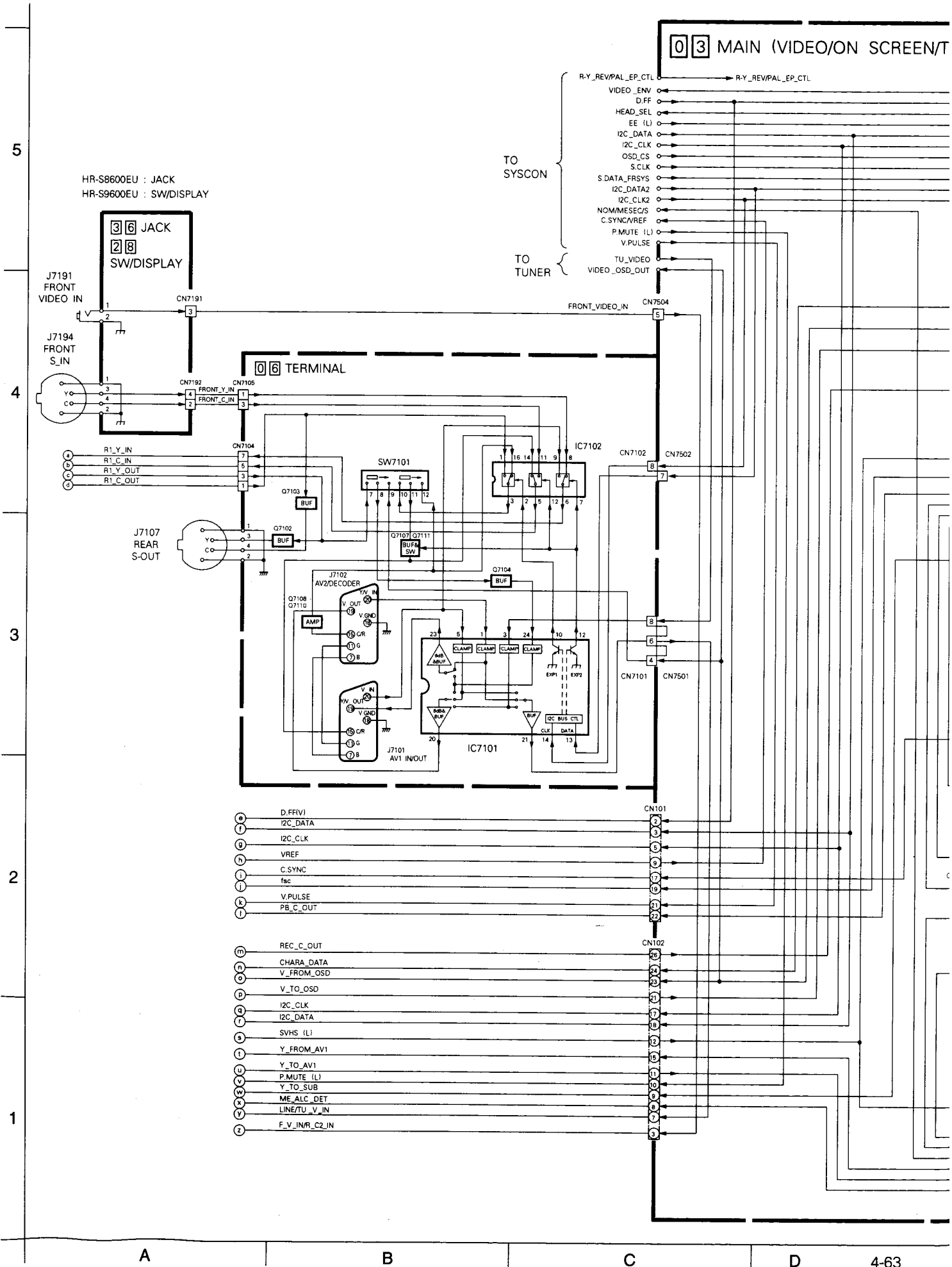
IC3001
(SYSTEM CONTROL MICRO PROCESSOR)



4.28 VIDEO BLOCK DIAGRAM

0 5 3D SVHS (VIDEO/ 3D/TBC)





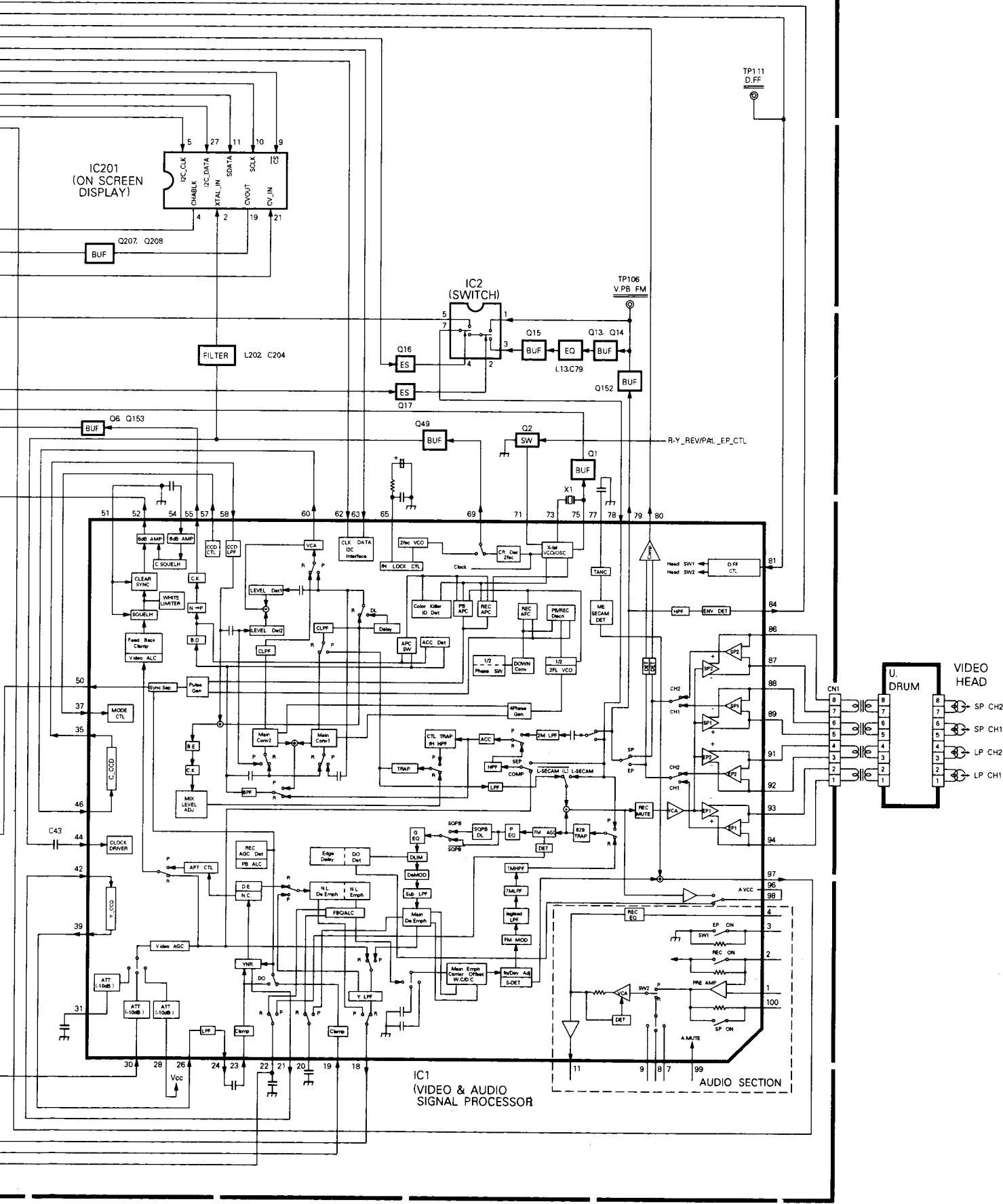
A

B

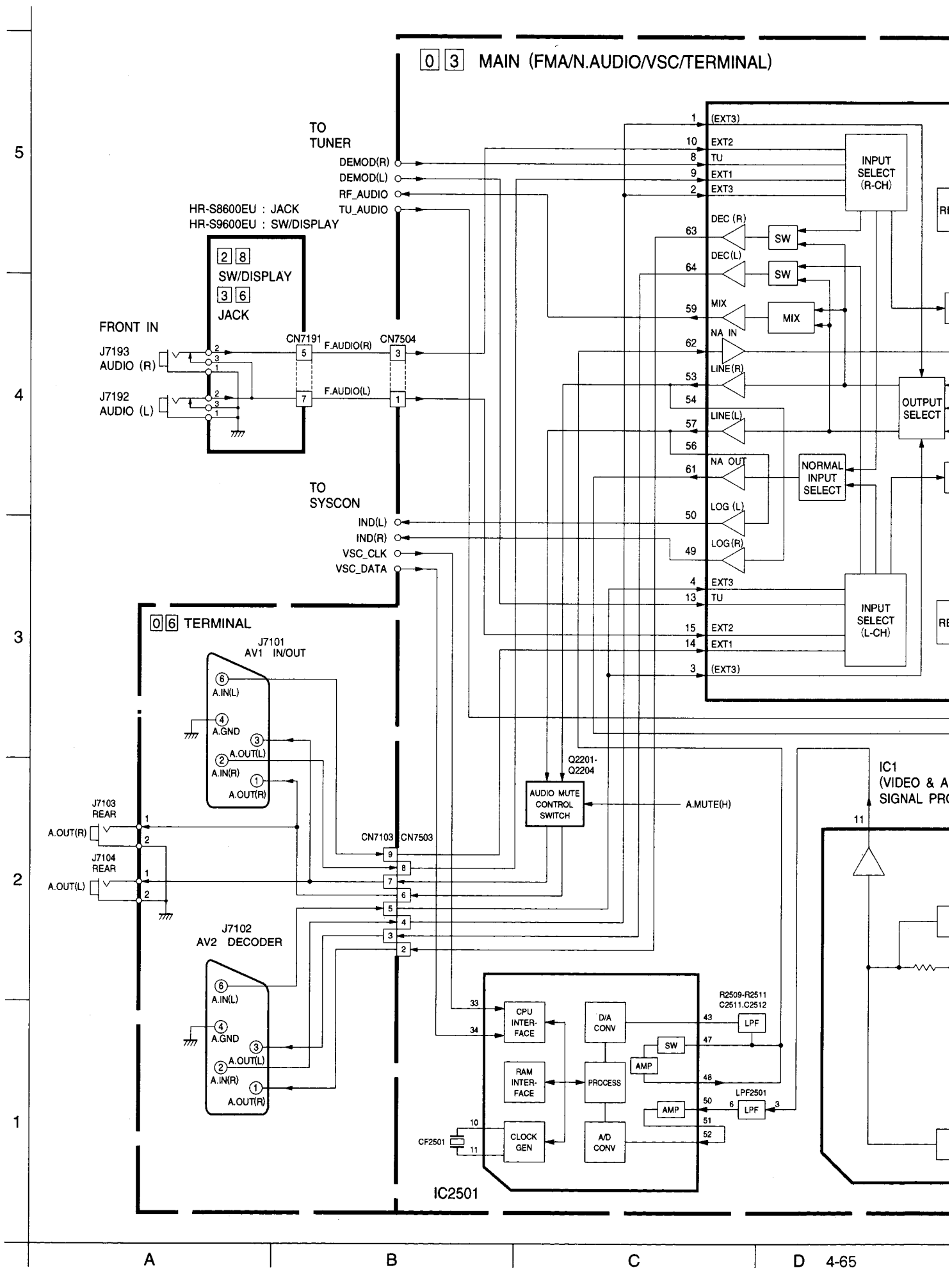
C

D

EEN/TERMINAL)



4.29 AUDIO BLOCK DIAGRAM



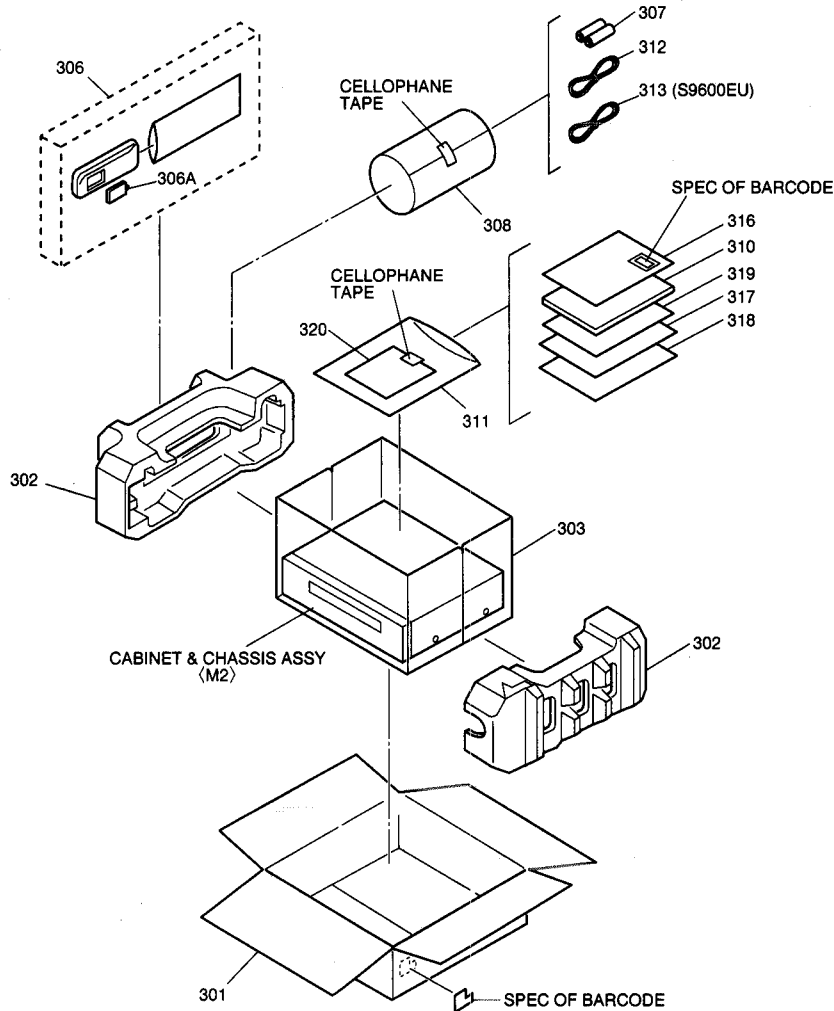
SECTION 5 PARTS LIST

SAFETY PRECAUTION

Parts identified by the Δ symbol are critical for safety. Replace only with specified part numbers.

5.1 PACKING AND ACCESSORY ASSEMBLY <M1>

The instruction manual to be provided with this product will differ according to the destination.



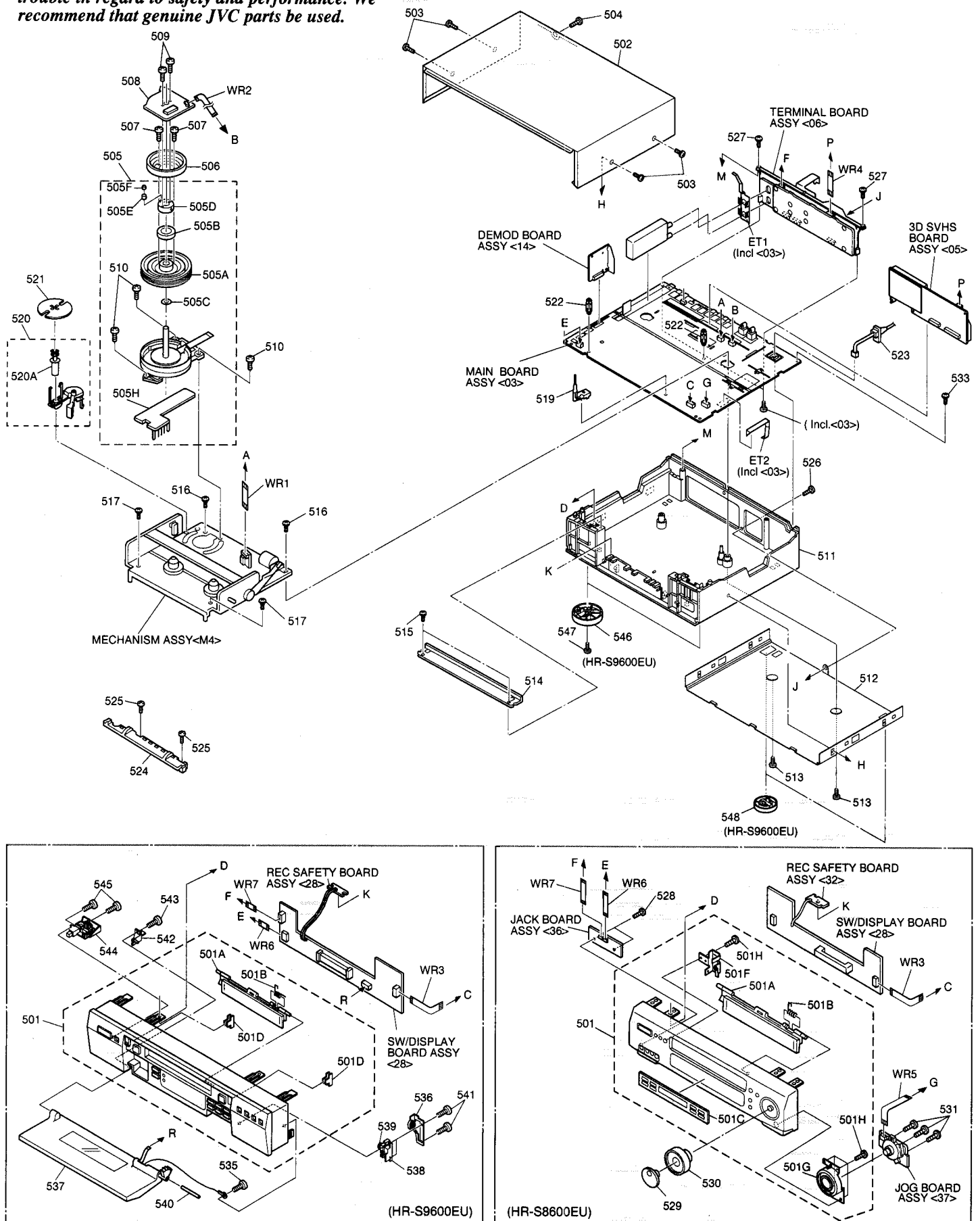
# Δ REF No.	PART No.	PART NAME, DESCRIPTION	# Δ REF No.	PART No.	PART NAME, DESCRIPTION

PACKING AND ACCESSORY ASSEMBLY <M1>					
	301	LP30600-001A			PACKING CASE,S8600EU
		LP30668-001A			PACKING CASE,S9600EU
	302	LP30667-001B			CUSHION ASSY,S9600EU
		LP30606-002B			CUSHION ASSY,S8600EU
	303	PQM30021-95			POLY BAG
	306	LP20667-002C			REMOTE CONTROLLER
	306A	LP40225-003A			COVER(BATTERY)
	307	-			BATTERY,X2("R6"TYPE)
	308	QPC02202230P			POLY BAG
Δ	310	LPT0248-001A	Δ		INST.BOOK(EN),S8600EU
Δ		LPT0248-002A	Δ		INST.BOOK(GE),S8600EU
Δ		LPT0248-003A	Δ		INST.BOOK(FR),S8600EU
Δ		LPT0248-004A	Δ		INST.BOOK(DU),S8600EU
Δ		LPT0248-005A	Δ		INST.BOOK(SP),S8600EU
Δ		LPT0248-006A	Δ		INST.BOOK(IT),S8600EU
Δ		LPT0248-007A	Δ		INST.BOOK(DA),S8600EU
Δ		LPT0248-008A	Δ		INST.BOOK(FI),S8600EU
Δ		LPT0248-009A	Δ		INST.BOOK(SW),S8600EU
Δ		LPT0248-010A	Δ		INST.BOOK(NO),S8600EU
Δ		LPT0248-011A	Δ		INST.BOOK(PT),S8600EU
Δ		LPT0248-012A	Δ		INST.BOOK(GR),S8600EU
Δ		LPT0248-013A	Δ		INST.BOOK(CZ),S8600EU
Δ		LPT0248-014A	Δ		INST.BOOK(PO),S8600EU
			Δ		LPT0248-015A
			Δ		LPT0256-001A
			Δ		LPT0256-002A
			Δ		LPT0256-003A
			Δ		LPT0256-004A
			Δ		LPT0256-005A
			Δ		LPT0256-006A
			Δ		LPT0256-007A
			Δ		LPT0256-008A
			Δ		LPT0256-009A
			Δ		LPT0256-010A
			Δ		LPT0256-011A
			Δ		LPT0256-012A
			Δ		LPT0256-013A
			Δ		LPT0256-014A
			Δ		LPT0256-015A
			Δ		LPT0256-016A
				311	QPC02503530P
				312	PEAC0300-02
				313	PEAC0358-120
				316	BT-54013-1
				317	LPT0248-016A
				318	PQ45146-167
					PQ45146-176
				319	LP40605-001A
				320	LPT0248-018A
					POLY BAG
					RF CABLE
					S CABLE,S9600EU
					WARRANTY CARD
					SHEET(CAUTION)
					SHEET(SPAIN),S8600EU
					SHEET(SPAIN),S9600EU
					SHEET
					SHEET(ATTENSION)

5.2 CABINET AND CHASSIS ASSEMBLY <M2>

BEWARE OF BOGUS PARTS

Parts that do not meet specifications may cause trouble in regard to safety and performance. We recommend that genuine JVC parts be used.



△ REF No. PART No. PART NAME, DESCRIPTION

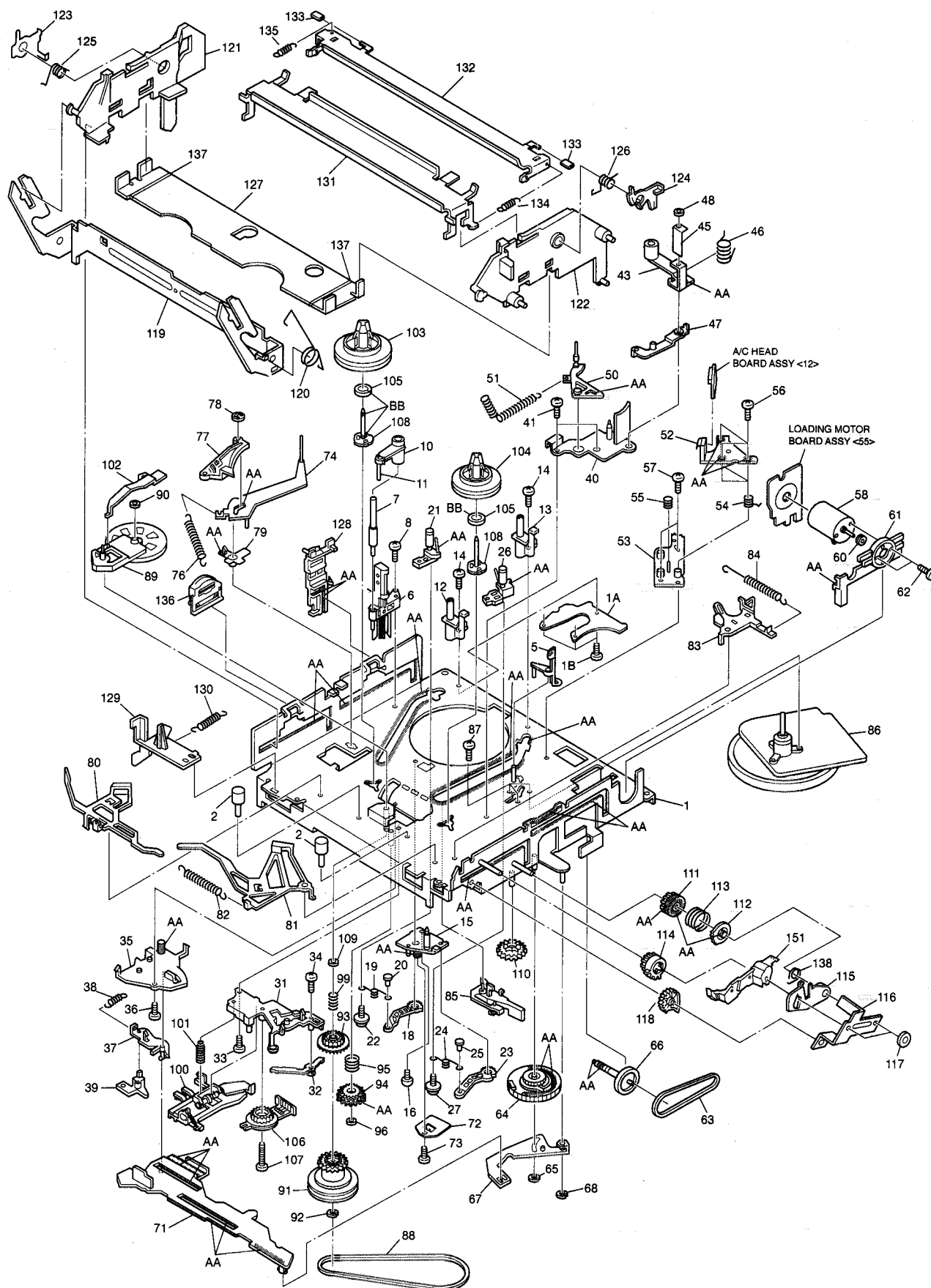
CABINET AND CHASSIS ASSEMBLY <M2>

△ 501	LP10088-011C	FRONT PANEL ASSY,S8600EU
△	LP10236-002D	FRONT PANEL ASSY,S9600EU
501A	LP20661-002B	CASSETTE DOOR,S9600EU
	LP20716-003A	CASSETTE DOOR,S8600EU
501B	PQ46448	TORSION SPRING
501C	LP20250-008A	DISPLAY WINDOW,S8600EU
501D	PEME0879	MAGNET ASSY,X2,S9600EU
501F	LP40159-001B	BRACKET(DAMPER),S8600EU
501G	LP20613-002A	ORNAMENT,S8600EU
501H	SDSF2608Z	SCREW,X5,S8600EU
△ 502	PQ11922-26-5	TOP COVER
503	QYTDSF3010R	SCREW,X4 TOP COVER(SIDE)
504	QYTDSF3010M	SCREW,TOP COVER(REAR)
505	LP20319-008A	DRUM SUB ASSY
505A	LP20030-017A	UPPER DRUM ASSY
505B	PDM4439	CAP
505C	PDM4444-19-2	WASHER
505D	LP40572-001A	COLLAR ASSY
505E	LP40323-001A	CONTACT
505F	LP30004-014A	COMPRESSION SPRING
505H	LPA20002-01C	SENSOR BOARD ASSY
506	PDZ0179-2-4	ROTOR ASSY
507	QYSPSP3006Z	SCREW,X2
508	PDZ0180-1-2	STATOR ASSY
509	QYSPSPH2606Z	SCREW,X2
510	QYTDST2610Z	SCREW,X3 DRUM
△ 511	LP10140-003D	BOTTOM CHASSIS,S9600EU
△	LP10140-006C	BOTTOM CHASSIS,S8600EU
△ 512	PQ11921-1-3	BOTTOM COVER
513	QYTDSF3010Z	SCREW,X2 BOTTOM COVER
514	LP30312-001B	BRACKET(CHASSIS)
515	QYTDSF3010Z	SCREW,X2 BRACKET CHASSIS
516	QYTDSF4012Z	SCREW,X2 MECHA
517	QYTDSF3010Z	SCREW,X2 MECHA
519	LP40407-001A	KNOB ASSY
520	LP40370-001E	ROLLER ARM ASSY
520A	PDM4311A-1	ROLLER ASSY
521	PQ45160	INERTIA PLATE
522	LP40226-001A	PC SUPPORT,X2
△ 523	QMP4A10-170	POWER CORD
524	LP30247-001B	FRONT BRACKET
525	QYTDST2606Z	SCREW,X2 FRONT BRACKET
526	QYTDSF3010M	SCREW,TERMINAL
527	QYTSPFG3010Z	SCREW,X2 TERMINAL
528	QYTDSF2608Z	SCREW,X2 S JACK,S8600EU
529	LP30121-005A	KNOB(JOG),S8600EU
530	LP30120-005A	KNOB SHUTTLE,S8600EU
531	QYTDSF2608Z	SCREW,X3 JOG,S8600EU
533	QYTDSF3010Z	SCREW,MAIN
535	QYTDSF3010Z	SCREW,EARTH PLATE,S9600EU
536	LP40582-001A	DAMPER ASSY,S9600EU
537	LP20702-002A	MEMBRANE DOOR,S9600EU
538	LP30570-001A	HOLDER(DAMPER),S9600EU
539	QZW0012-002	DAMPER,S9600EU
540	LP40500-001A	SHAFT,S9600EU
541	QYTDSF3010Z	SCREW,X2,S9600EU

△ REF No. PART No. PART NAME, DESCRIPTION

542	LP40501-001A	HOLDER(DOOR),S9600EU
543	QYTDSF3010Z	SCREW,HOLDER(DOOR),S9600EU
544	QZW0031-002	DOOR OPEN UNIT,S9600EU
545	QYTDSF3010Z	SCREW,X2,S9600EU
546	PQ46617A-1	FOOT ASSY,X2,S9600EU
547	QYTDSF3010Z	SCREW,FOOT(1),S9600EU
548	PQ35504-2	FOOT(2),S9600EU
WR1	QUQ112-0714CG	FFC WIRE,A/C HEAD CN2001
WR2	QUQ212-0520CG	FFC WIRE,DRUM CN3001
WR3	QUQ112-1414CG	FFC WIRE,DISPLSY CN3011
WR4	QUQ112-0708CG	FFC WIRE,TERMINAL CN1003
WR5	QUQ112-0616CG	FFC WIRE,JOG CN3012,S8600EU
WR6	QUQ212-0516CG	FFC WIRE,JACK CN7504
WR7	QUQ212-0446CG	FFC WIRE,S JACK CN7105

5.3 MECHANISM ASSEMBLY <M4>



Classification	Part No.	Symbol in drawing
Grease	KYODO-SH-P	AA
Oil	COSMO-HV56	BB

NOTE: The section marked in AA and BB indicate lubrication and greasing areas.

△ REF No. PART No. PART NAME, DESCRIPTION

MECHANISM ASSEMBLY <M4>

1	LP20228-009D	MAIN DECK ASSY
1A	LP40275-003A	PLATE(SUPPLY)
1B	QYTDST2606Z	SCREW,X4
2	PQ46302-1-3	ADJUST PIN
5	LP30492-002B	GUIDE POLE GUARD
6	NAH0001-001	FULL ERASE HEAD
7	LP40098-001B	GUIDE POLE(SUPPLY)
8	QYTDST2608Z	SCREW,FE HEAD
10	LP30459-002A	TENSION STUD BASE
11	LP40367-002A	TENSION STUD
12	LP40096-001B	UV CATCHER(SUPPLY)
13	LP40536-001A	UV CATCHER ASSY(TAKE UP)
14	QYTPST2606Z	SCREW,X2 UV CATCHER
15	LP30223-003C	LOADING ARM GEAR SHAFT
16	QYTDST2606Z	SCREW
18	LP30224-001A	LOADING ARM GEAR(SUPPLY)
19	LP40099-001A	TORSION ARM
20	LP40100-001A	PIN
21	LP40101-003D	POLE BASE ASSY(SUPPLY)
22	QYSPSTG2606Z	SCREW
23	LP40103-002B	LOADING ARM GEAR(TAKE UP)
24	LP40099-001A	TORSION ARM(TAKE UP)
25	LP40100-001A	PIN
26	LP40104-002C	POLE BASE ASSY(TAKE UP)
27	QYSPSTG2606Z	SCREW
31	LP20233-003G	ROTARY ENCODER GUIDE
32	LP30499-001C	BRAKE LEVER
33	QYTPST2606Z	SCREW
34	QYTPST2608Z	SCREW
35	LP30226-004B	CONTROL PLATE GUIDE
36	QYTPST2605Z	SCREW
37	LP30249-003B	TAKE UP LEVER
38	LP30003-006A	TENSION SPRING
39	LP40119-002A	T.UP HEAD
40	LP20234-004B	LID GUIDE
41	QYTDST2606Z	SCREW,X2
43	LP40105-001B	PINCH ROLLER ARM ASSY
45	LP40478-001A	P.R.SHEET2
46	LP40148-002A	TORSION SPRING
47	LP40149-001B	P.LEVER ASSY
48	LP30016-002A	SLIT WASHER
50	LP40106-002E	GUIDE ARM ASSY
51	LP40134-001C	TENSION SPRING
52	QAH0010-004	AC HEAD
53	LP30228-001A	HEAD BASE
54	LP30004-013A	COMPRESSION SPRING,X3
55	LP40236-001A	COMPRESSION SPRING
56	LP40213-002B	SPECIAL SCREW,X3
57	QYTDST2608Z	SCREW,X2 HEAD BASE
58	QAR0023-001	LOADING MOTOR
60	PQ43546-1-2	MOTOR PULLEY
61	LP30230-003A	MOTOR GUIDE
62	QYTPSP3003Z	SCREW,X2
63	LP30005-003A	BELT,LOADING MOTOR
64	LP20791-002B	CONTROL CAM
65	PQM30017-24	SLIT WASHER
66	LP40120-001A	WORM GEAR
67	LP40107-002A	LINK LEVER ASSY
68	PQM30017-24	SLIT WASHER
71	LP10201-002E	CONTROL PLATE
72	LP40379-001B	CTL BRACKET(1)

△ REF No. PART No. PART NAME, DESCRIPTION

73	QYTDST2608M	SCREW
74	LP40108-002A	TENSION ARM ASSY
76	LP30003-010A	TENSION SPRING
77	LP40109-003D	TENSION BRAKE ASSY
78	PQ46302-1-3	ADJUST PIN
79	LP30232-002A	T.ARM BEARING
80	LP40532-004A	MAIN BRAKE ASSY (SUPPLY)
81	LP40111-006A	MAIN BRAKE AY (TAKE-UP)
82	LP30003-002A	TENSION SPRING
83	LP40112-001F	SUB BRAKE ASSY(TAKE UP)
84	LP40357-002A	TENSION SPRING
85	LP40461-001A	CAPSTAN BRAKE ASSY
86	QAR0087-003	CAPSTAN MOTOR
87	QYTDST2606M	SCREW,X3
88	LP30005-007A	BELT,CAPSTAN MOTOR
89	LP40114-008A	IDLER ARM ASSY
90	LP30016-001A	SLIT WASHER
91	LP40459-003D	CLUTCH UNIT 2
92	PQM30017-47	SLIT WASHER
93	LP40446-002B	CLUTCH GEAR 1
94	LP40442-001A	DIRECT GEAR
95	LP40483-002A	COMPRESSION SPRING
96	LP30016-001A	SLIT WASHER
99	LP40554-001A	COMPRESSION SPRING,C.GEAR1
100	LP40484-001F	CHANGE LEVER ASSY
101	LP40512-002B	COMPRESSION SPRING
102	LP30236-002B	IDLER LEVER
103	LP40420-001A	REEL DISK ASSY(SUPPLY)
104	LP40421-001A	REEL DISK ASSY(TAKE UP)
105	LP30017-015A	SPACER,X2 REEL DISK
106	QSW0554-003	ROTARY ENCODER
107	QYTPST2620Z	SCREW
108	LP40123-001A	REEL SHAFT,X2
109	LP30017-019A	SPACER,C.GEAR1
110	LP30237-002B	CASSETTE GEAR
111	LP30239-002F	LIMIT GEAR(1)
112	LP30240-002G	LIMIT GEAR(2)
113	LP40136-001E	TORSION SPRING
114	LP30242-002A	RELAY GEAR
115	LP30339-002E	OPENER GUIDE
116	LP40214-001B	C.H.BRACKET
117	PQM30017-47	SLIT WASHER,X2
118	LP30243-001D	DRIVE GEAR
119	LP20240-001C	DRIVE ARM
120	LP40137-001A	TORSION SPRING
121	LP10081-002L	SIDE HOLDER(L)
122	LP10082-002M	SIDE HOLDER(R)
123	LP30255-006A	LOCK LEVER(L)
124	LP30256-001H	LOCK LEVER(R)
125	LP40168-001A	TORSION SPRING(L)
126	LP40218-001B	TORSION SPRING(R)
127	LP30257-001F	CASSETTE HOLDER
128	LP30244-002G	GUIDE RAIL
129	LP30245-002E	REC SAFETY LEVER
130	LP30003-004A	TENSION SPRING
131	LP20578-001C	TOP GUIDE
132	LP30500-001C	HOLD PLATE
133	LP40450-003A	PAD,X2 HOLD PLATE
134	LP30003-025B	TENSION SPRING(TAKE UP)
135	LP30003-024A	TENSION SPRING(SUPPLY)
136	LP40481-003A	ROLLER CAM ASSY
137	LP30019-014A	PAD,X2 CASSETE HOLDER
138	LP40545-001A	TORSION SPRING,OPENER GUIDE
151	LP20324-002F	DOOR OPENER

5.4 ELECTRICAL PARTS LIST

#	△ REF No.	PART No.	PART NAME, DESCRIPTION

MAIN BOARD ASSEMBLY <03>			
PW1		LPA10048-53E	MAIN BOARD ASSY,S9600EU
		LPA10048-51E	MAIN BOARD ASSY,S8600EU
IC1		JCP8017-MSA	IC
IC2		MM1113XF	IC
IC201		LC74775-9750	IC
IC2201		AN3651FBP	IC
IC2501		LC85405JE	IC
IC3001		HD6432194A54F	IC
IC3002		S-80728AN-DR-X	IC
		or S-80828ANUP-W	IC
IC3003		M24C08-BN6	IC
		or AT24C08-10PC	IC
		or S-24C08ADP	IC
		or X24C08P	IC
		or 24LC08B/P	IC
IC3004		TA7291S	IC
IC3301		M38513M4C56FP	SOP IC(MPU)
IC3501		TA7291S	IC
IC3961		TC7W241FU	IC(DIGITAL)
IC3962		TC7W241FU	IC(DIGITAL)
IC5301		LA5634-N	IC
IC6080		BA15218F-XE	IC
Q1		2SB1218A/QR/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
Q2		UN521E	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
		or PDTTC144WU	TRANSISTOR
Q6		2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
Q13		2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
Q14		2SD1819A/QRS/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
Q15		2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
Q16		UN511E	TRANSISTOR
		or PDTA144WU	TRANSISTOR
		or RN2309	TRANSISTOR
		or DTA144WU	TRANSISTOR
Q17		UN521E	TRANSISTOR
		or PDTTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
Q18		UN521E	TRANSISTOR
		or PDTTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
Q47		2SK433/D/-W	JUNCTION FET
Q48		2SK433/D/-W	JUNCTION FET
Q49		2SC3936/BC/-X	TRANSISTOR
Q55		UN521E	TRANSISTOR

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
		or PDTTC144WU	TRANSISTOR
Q152		2SB1218A/QR/-X	TRANSISTOR
		or 2SA1576A/QRS/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
Q153		2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
Q207		2SB1218A/QR/-X	TRANSISTOR
		or 2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
Q208		2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SC4081/QRS/-X	TRANSISTOR
Q401		2SA1576A/QR/-X	TRANSISTOR
Q402		UN521E	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
		or PDTTC144WU	TRANSISTOR
Q403		UN521E	TRANSISTOR
		or RN1309	TRANSISTOR
		or DTC144WU	TRANSISTOR
		or PDTTC144WU	TRANSISTOR
Q404		2SA1576A/QR/-X	TRANSISTOR
Q405		2SA1576A/QR/-X	TRANSISTOR
Q2001		2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
Q2002		2SC4081/QRS/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
Q2003		DTA144WU	TRANSISTOR
		or PDTA144WU	TRANSISTOR
		or RN2309	TRANSISTOR
		or UN511E	TRANSISTOR
Q2051		2SC4081/QRS/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
Q2052		2SA1576A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
Q2053		DTC144WU	TRANSISTOR
		or PDTTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
Q2054		2SA1576A/QR/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
Q2055		DTC144WU	TRANSISTOR
		or PDTTC144WU	TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
Q2061		2SC4081/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
Q2062		2SA1576A/QR/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
Q2063		DTC144WU	TRANSISTOR
		or PDTTC144WU	TRANSISTOR

#	△	REF No.	PART No.	PART NAME, DESCRIPTION
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
Q2102			DTC144WU	TRANSISTOR
			or PDC144WU	TRANSISTOR
			or UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
Q2151			2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q2201			2SC4081/QRS/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q2202			2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SD1819A/QRS/-X	TRANSISTOR
Q2203			DTA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
			or PDA144WU	TRANSISTOR
Q2204			DTC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
			or PDC144WU	TRANSISTOR
Q2253			DTC114EU	TRANSISTOR
			or PDC114EU	TRANSISTOR
			or UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
Q2255			DTC144WU	TRANSISTOR
			or PDC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
Q2256			DTC144WU	TRANSISTOR
			or PDC144WU	TRANSISTOR
			or RN1309	TRANSISTOR
			or UN521E	TRANSISTOR
Q2258			DTA144WU	TRANSISTOR
			or PDA144WU	TRANSISTOR
			or RN2309	TRANSISTOR
			or UN511E	TRANSISTOR
Q2501			2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q2502			UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDC144WU	TRANSISTOR
Q3001			2SD1819A/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
Q3002			PTZ-NV16	PHOTO TRANSISTOR
Q3003			PTZ-NV16	PHOTO TRANSISTOR
Q3004			2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q3005			2SC1740S/QRS/-T	TRANSISTOR
			or 2SC3199/YG/-T	TRANSISTOR
Q3007			UN521E	TRANSISTOR
			or RN1309	TRANSISTOR
			or DTC144WU	TRANSISTOR
			or PDC144WU	TRANSISTOR
Q3008			UN521E	TRANSISTOR

#	△	REF No.	PART No.	PART NAME, DESCRIPTION
			or RN1309	TRANSISTOR
			or PDC144WU	TRANSISTOR
			or DTC144WU	TRANSISTOR
Q3501			2SD1819A/QRS/-X	TRANSISTOR
			or 2SC4081/QRS/-X	TRANSISTOR
			or 2PC4081/R/-X	TRANSISTOR
Q4001			UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDC114EU	TRANSISTOR
Q5101			2SK2632-CB14	POWER MOS FET
			or 2SK2632	POWER MOS FET
			or 2SK2129-LT	POWER MOS FET
			or 2SK2129	POWER MOS FET
Q5102			2SD2144S/UV/-T	TRANSISTOR
Q5301			2SB1256	TRANSISTOR
Q5302			DTC114TU	TRANSISTOR
			or PDC114TU	TRANSISTOR
			or RN1311	TRANSISTOR
			or UN5215	TRANSISTOR
Q5303			2SD2144S/UVW/-T	TRANSISTOR
Q5304			2SD1450/ST/-T	TRANSISTOR
			or 2SD1302/ST/-T	TRANSISTOR
Q5305			UN5111	TRANSISTOR
			or RN2302	TRANSISTOR
			or DTA114EU	TRANSISTOR
			or PDA114EU	TRANSISTOR
Q5306			2SB1256	TRANSISTOR
Q5310			UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDC114EU	TRANSISTOR
Q5311			2SA1576A/RS/-X	TRANSISTOR
			or 2SB1218A/RS/-X	TRANSISTOR
Q5312			2SA1745/6-7/-X	TRANSISTOR
Q6030			2SB1218A/RS/-X	TRANSISTOR
Q6031			UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDC114EU	TRANSISTOR
Q6032			UN5211	TRANSISTOR
			or RN1302	TRANSISTOR
			or DTC114EU	TRANSISTOR
			or PDC114EU	TRANSISTOR
D16			DA204U	DIODE
D17			DA204U	DIODE
D24			DA204U	DIODE
D201			NRSA02J-152X	MG RESISTOR
D202			NRSA02J-0R0X	MG RESISTOR
D203			NRSA02J-0R0X	MG RESISTOR
D2001			1SS133	DIODE
			or 1N4148M	DIODE
D2201			11ES2	DIODE
D2501			1SS355	DIODE
D3001			LNB2301L01VI	LE DIODE
D3002			1SS133	DIODE
D3003			RD39ES/B3/-T2	ZENER DIODE
			or MTZJ39C	ZENER DIODE
D3004			11E2-T5	DIODE
D3005			11E2-T5	DIODE
D3007			1SS133	DIODE

1.5kΩ, 1/10W
0Ω, 1/10W
0Ω, 1/10W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
D3008		1SS355	DIODE	
D3961		RB721Q-40-T2	SB DIODE	
D3965		RB721Q-40-T2	SB DIODE	
D4001		1SS355	DIODE	
D4002		1SS355	DIODE	
D5001		S1WB(A)60F4102	BRIDGE DIODE	
		or S1WB(A)60F4072X	BRIDGE DIODE	
		or S1WB(A)60F4062X	BRIDGE DIODE	
D5101		AU01	FR DIODE	
		or ERA18-04-T2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS4	FR DIODE	
		or PG104RS	FR DIODE	
D5102		AU01	FR DIODE	
		or PG104RS	FR DIODE	
		or 10ELS4	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or ERA18-04-T2	FR DIODE	
D5103		1SS133	DIODE	
D5105		1SS133	DIODE	
D5201		AK04	DIODE	
		or 1S4	SB DIODE	
		or 11EQS04	SB DIODE	
D5202		FML-12S	FR DIODE	
		or MA644	FR DIODE	
		or YG901C2	FR DIODE	
		or FCF06A20	FR DIODE	
D5206		FMB-24	BARRIER DIODE	
		or FSQ05A04B	SB DIODE	
		or MA7D49	SB DIODE	
		or YG801C04	SB DIODE	
D5209		ERA18-02-T2	FR DIODE	
		or PG104RS	FR DIODE	
		or 10ELS2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
D5210		AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or 10ELS2	FR DIODE	
		or PG104RS	FR DIODE	
D5211		AU01Z	FR DIODE	
		or ERA18-02-T2	FR DIODE	
		or 10ELS2	FR DIODE	
		or 1SR153-400-T2	FR DIODE	
		or PG104RS	FR DIODE	
D5301		MTZJ15A	ZENER DIODE	
		or RD15ES/B1/-T2	ZENER DIODE	
D5302		MTZJ6.8A	ZENER DIODE	
		or RD6.8ES/B1/-T2	ZENER DIODE	
D5303		MTZJ27C	ZENER DIODE	
		or RD27ES/B3/-T2	ZENER DIODE	
D5304		1SS133	DIODE	
D5305		11E2-T5	DIODE	
D5307		1SS133	DIODE	
D5308		1SS133	DIODE	
D5309		1SS133	DIODE	
D5311		RD5.1ES/B3/-T2	ZENER DIODE	
		or MTZJ5.1C	ZENER DIODE	
D6002		HZ30-2L-T2	ZENER DIODE	
		or HZ30-2LTD	Z DIODE (M)	
R1		NRSA02J-331X	MG RESISTOR	330Ω,1/10W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
R2		NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R3		NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R4		NRSA02J-822X	MG RESISTOR	8.2kΩ,1/10W
R5		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R6		NRSA02J-681X	MG RESISTOR	680Ω,1/10W
R7		NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R10		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R11		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R13		NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R15		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R16		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R24		NRVA02D-622X	CMF RESISTOR	6.2kΩ,1/10W
R25		NRVA02D-152X	CMF RESISTOR	1.5kΩ,1/10W
R46		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R47		NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R48		NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R49		NRSA02J-221X	MG RESISTOR	220Ω,1/10W
R50		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R52		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R54		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R55		NRSA02J-122X	MG RESISTOR	1.2kΩ,1/10W
R56		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R57		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R60		NRSA02J-563X	MG RESISTOR	56kΩ,1/10W
R62		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R63		NDC21HJ-120X	CAPACITOR	12pF,50V
R64		NDC21HJ-220X	CAPACITOR	22pF,50V
R68		NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R69		NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R71		NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R73		NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
R94		NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R95		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R96		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R137		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R143		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R158		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R168		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R169		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R170		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R171		NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R181		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R195		NRSA02J-684X	MG RESISTOR	680kΩ,1/10W
R197		NRSA02J-106X	MG RESISTOR	10MΩ,1/10W
R201		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R202		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R208		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R209		NRSA02J-512X	MG RESISTOR	5.1kΩ,1/10W
R210		NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W
R211		NRSA02J-562X	MG RESISTOR	5.6kΩ,1/10W
R212		NRSA02J-331X	MG RESISTOR	330Ω,1/10W
R213		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R216		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W
R218		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R224		NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R225		NRSA02J-471X	MG RESISTOR	470Ω,1/10W
R401		NRSA02J-473X	MG RESISTOR	47kΩ,1/10W
R402		NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R403		NRSA02J-393X	MG RESISTOR	39kΩ,1/10W
R404		NRSA02J-683X	MG RESISTOR	68kΩ,1/10W
R405		NRSA02J-473X	MG RESISTOR	47kΩ,1/10W

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	#	△	REF No.	PART No.	PART NAME, DESCRIPTION
R408			NRSA02J-561X	MG RESISTOR 560Ω, 1/10W	R2231			NRSA02J-272X	MG RESISTOR 2.7kΩ, 1/10W
R409			NRSA02J-681X	MG RESISTOR 680Ω, 1/10W	R2236			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R410			NRSA02J-221X	MG RESISTOR 220Ω, 1/10W	R2237			NRSA02J-511X	MG RESISTOR 510Ω, 1/10W
R2001			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W	R2239			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2002			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W	R2240			NRSA02J-511X	MG RESISTOR 510Ω, 1/10W
R2003			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W	R2241			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R2004			NRSA02J-224X	MG RESISTOR 220kΩ, 1/10W	R2242			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R2005			NRSA02J-271X	MG RESISTOR 270Ω, 1/10W	R2243			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2006			NRSA02J-273X	MG RESISTOR 27kΩ, 1/10W	R2244			NRSA02J-560X	MG RESISTOR 56Ω, 1/10W
R2007			NRSA02J-183X	MG RESISTOR 18kΩ, 1/10W	R2251			NRSA02J-303X	MG RESISTOR 30kΩ, 1/10W
R2009			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W	R2252			NRSA02J-221X	MG RESISTOR 220Ω, 1/10W
R2013			NRSA02J-332X	MG RESISTOR 3.3kΩ, 1/10W	R2254			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2014			NRSA02J-153X	MG RESISTOR 15kΩ, 1/10W	R2255			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R2018			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	R2501			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W
R2019			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	R2502			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2020			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W	R2503			NRSA02J-104X	MG RESISTOR 100kΩ, 1/10W
R2053			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	R2504			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2054			NRSA02J-153X	MG RESISTOR 15kΩ, 1/10W	R2505			NRSA02J-105X	MG RESISTOR 1MΩ, 1/10W
R2055			NRSA02J-3R3X	MG RESISTOR 3.3Ω, 1/10W	R2506			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W
R2056			NRSA02J-101X	MG RESISTOR 100Ω, 1/10W	R2507			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2057			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R2508			NRSA02J-333X	MG RESISTOR 33kΩ, 1/10W
R2058			NRSA02J-183X	MG RESISTOR 18kΩ, 1/10W	R2509			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R2059			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R2510			NRSA02J-104X	MG RESISTOR 100kΩ, 1/10W
R2060			NRSA02J-183X	MG RESISTOR 18kΩ, 1/10W	R2511			NRSA02J-154X	MG RESISTOR 150kΩ, 1/10W
R2061			NRSA02J-273X	MG RESISTOR 27kΩ, 1/10W	R2512			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2062			NRSA02J-3R3X	MG RESISTOR 3.3Ω, 1/10W	R2513			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2063			QRE141J-151Y	RESISTOR 150Ω, 1/4W	R2514			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2064			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R2515			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R2065			NRSA02J-183X	MG RESISTOR 18kΩ, 1/10W	R2519			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2105			NRSA02J-471X	MG RESISTOR 470Ω, 1/10W	R2520			NRSA02J-101X	MG RESISTOR 100Ω, 1/10W
R2151			NRSA02J-101X	MG RESISTOR 100Ω, 1/10W	R2521			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2152			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	R2522			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W
R2201			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R3011			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2202			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R3012			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2203			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W	R3013			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2204			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W	R3014			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2206			NRSA02J-273X	MG RESISTOR 27kΩ, 1/10W	R3015			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2207			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R3016			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2208			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R3017			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2209			NRSA02J-273X	MG RESISTOR 27kΩ, 1/10W	R3018			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W
R2210			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R3019			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2211			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	R3020			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2212			NRSA02J-104X	MG RESISTOR 100kΩ, 1/10W	R3021			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2213			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W	R3022			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2214			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W	R3025			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2215			NRSA02J-104X	MG RESISTOR 100kΩ, 1/10W	R3026			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2216			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W	R3027			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2217			NRSA02J-682X	MG RESISTOR 6.8kΩ, 1/10W	R3029			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2218			NRSA02J-560X	MG RESISTOR 56Ω, 1/10W	R3030			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2219			NRSA02J-681X	MG RESISTOR 680Ω, 1/10W	R3031			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2220			NRSA02J-272X	MG RESISTOR 2.7kΩ, 1/10W	R3033			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2221			NRSA02J-272X	MG RESISTOR 2.7kΩ, 1/10W	R3034			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2222			NRSA02J-681X	MG RESISTOR 680Ω, 1/10W	R3035			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2223			NRSA02J-681X	MG RESISTOR 680Ω, 1/10W	R3036			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2224			NRSA02J-272X	MG RESISTOR 2.7kΩ, 1/10W	R3037			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2225			NRSA02J-101X	MG RESISTOR 100Ω, 1/10W	R3038			NRSA02J-152X	MG RESISTOR 1.5kΩ, 1/10W
R2226			NRSA02J-332X	MG RESISTOR 3.3kΩ, 1/10W	R3039			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R2227			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	R3040			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2228			NRSA02J-681X	MG RESISTOR 680Ω, 1/10W	R3041			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2229			NRSA02J-681X	MG RESISTOR 680Ω, 1/10W	R3042			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W
R2230			NRSA02J-272X	MG RESISTOR 2.7kΩ, 1/10W	R3044			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	#	△ REF No.	PART No.	PART NAME, DESCRIPTION
R3046		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3215		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3047		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3216		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3048		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3217		NRSA02J-562X	MG RESISTOR 5.6kΩ,1/10W
R3049		NRSA02J-331X	MG RESISTOR 330Ω,1/10W	R3218		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3050		NRSA02J-331X	MG RESISTOR 330Ω,1/10W	R3219		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3051		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3220		NRSA02J-104X	MG RESISTOR 100kΩ,1/10W
R3052		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3222		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3053		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3223		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3054		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3224		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3055		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3225		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3056		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3229		NRSA02J-105X	MG RESISTOR 1MΩ,1/10W
R3057		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3230		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3058		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3231		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3059		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3233		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3060		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3234		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3061		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3235		NRSA02J-332X	MG RESISTOR 3.3kΩ,1/10W
R3062		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	R3236		NRSA02J-332X	MG RESISTOR 3.3kΩ,1/10W
R3063		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3237		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3066		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3238		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3069		NRSA02J-101X	MG RESISTOR 100Ω,1/10W	R3239		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3071		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	R3240		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3072		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3241		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3073		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3242		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3074		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3244		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3075		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3251		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W
R3076		NRSA02J-471X	MG RESISTOR 470Ω,1/10W	R3304		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3077		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3305		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3078		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3306		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3079		NRSA02J-0R0X	MG RESISTOR 0Ω,1/10W	R3307		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3080		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3308		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3081		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3309		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3083		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3311		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3087		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3312		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3088		NRSA02J-221X	MG RESISTOR 220Ω,1/10W	R3313		NRSA02J-471X	MG RESISTOR 470Ω,1/10W
R3089		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3314		NRSA02J-471X	MG RESISTOR 470Ω,1/10W
R3090		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3316		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3091		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3317		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3092		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3318		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3093		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3319		NRSA02J-105X	MG RESISTOR 1MΩ,1/10W
R3094		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3323		NRSA02J-0R0X	MG RESISTOR 0Ω,1/10W
R3095		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3324		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3096		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3325		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3097		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3327		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3103		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3328		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3104		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3329		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3105		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3330		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3106		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R3331		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3201		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	R3332		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3202		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	R3333		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3203		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	R3335		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3204		NRSA02J-222X	MG RESISTOR 2.2kΩ,1/10W	R3337		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3205		QRE141J-181Y	RESISTOR 180Ω,1/4W	R3338		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3206		NRSA02J-183X	MG RESISTOR 18kΩ,1/10W	R3339		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3207		NRSA02J-183X	MG RESISTOR 18kΩ,1/10W	R3340		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3208		QRE141J-181Y	RESISTOR 180Ω,1/4W	R3341		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3209		QRE141J-273Y	RESISTOR 27kΩ,1/4W	R3342		NRSA02J-102X	MG RESISTOR 1kΩ,1/10W
R3210		NRSA02J-181X	MG RESISTOR 180Ω,1/10W	R3353		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3211		NRSA02J-273X	MG RESISTOR 27kΩ,1/10W	R3354		NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W
R3212		QRE141J-474Y	RESISTOR 470kΩ,1/4W	R3501		NRSA02J-153X	MG RESISTOR 15kΩ,1/10W
R3213		NRSA02J-334X	MG RESISTOR 330kΩ,1/10W	R3502		NRSA02J-272X	MG RESISTOR 2.7kΩ,1/10W
R3214		NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	R3503		NRSA02J-153X	MG RESISTOR 15kΩ,1/10W

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	#	△	REF No.	PART No.	PART NAME, DESCRIPTION
R3504			NRSA02J-223X	MG RESISTOR 22kΩ, 1/10W	R6022			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R3505			NRSA02J-562X	MG RESISTOR 5.6kΩ, 1/10W	R6023			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R3506			NRSA02J-123X	MG RESISTOR 12kΩ, 1/10W	R6030			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W
R3961			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	R6031			NRSA02J-271X	MG RESISTOR 270Ω, 1/10W
R3962			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W	R6032			NRSA02J-392X	MG RESISTOR 3.9kΩ, 1/10W
R4001			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	R6033			NRSA02J-182X	MG RESISTOR 1.8kΩ, 1/10W
R4003			NRSA02J-561X	MG RESISTOR 560Ω, 1/10W	R6050			NRSA02J-101X	MG RESISTOR 100Ω, 1/10W
R4004			NRSA02J-561X	MG RESISTOR 560Ω, 1/10W	R6051			NRSA02J-101X	MG RESISTOR 100Ω, 1/10W
R4005			NRSA02J-562X	MG RESISTOR 5.6kΩ, 1/10W	R6052			NRSA02J-101X	MG RESISTOR 100Ω, 1/10W
R4006			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W	R6082			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W
R4007			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	R6508			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R4008			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	R6510			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R4009			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	R6553			QRE141J-0R0Y	RESISTOR 0Ω, 1/4W
R4010			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	R6554			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R4011			NRSA02J-392X	MG RESISTOR 3.9kΩ, 1/10W	R7530			NRSA02J-750X	MG RESISTOR 75Ω, 1/10W
R4012			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W	VR2251			QVP0039-473Z	TRIM RESISTOR, A.REC.FM
R4013			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	C1			QEKJ1CM-106	E CAPACITOR 10μF, 16V
R4014			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W	C3			NCF21CZ-105X	CAPACITOR 1μF, 16V
R4015			NRSA02J-223X	MG RESISTOR 22kΩ, 1/10W	C5			NCF21CZ-105X	CAPACITOR 1μF, 16V
R4016			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W	C6			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R4017			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	C7			QETN1CM-107	E CAPACITOR 100μF, 16V
R4018			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	C9			NCF21CZ-105X	CAPACITOR 1μF, 16V
R4019			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W	C11			NCF21CZ-105X	CAPACITOR 1μF, 16V
R4020			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W	C12			NCB21EK-473X	CAPACITOR 0.047μF, 25V
R4021			NRSA02J-103X	MG RESISTOR 10kΩ, 1/10W	C13			QERF1HM-335	E CAPACITOR 3.3μF, 50V
R5101			QRE141J-334Y	RESISTOR 330kΩ, 1/4W	C14			NCB21EK-333X	CAPACITOR 0.033μF, 25V
R5102			QRE141J-334Y	RESISTOR 330kΩ, 1/4W	C16			NCF21CZ-105X	CAPACITOR 1μF, 16V
R5103			QRE141J-683Y	RESISTOR 68kΩ, 1/4W	C19			NDC21HJ-470X	CAPACITOR 47pF, 50V
R5104			QRG029J-154G	OMF RESISTOR 150kΩ, 2W	C20			QEKJ1HM-225	E CAPACITOR 2.2μF, 50V
R5106			QRT01DJ-R39X	MF RESISTOR 0.39Ω, 1W	C21			NCB21CK-563X	CAPACITOR 0.056μF, 16V
R5107			QRE121J-331Y	RESISTOR 330Ω, 1/2W	C23			NCB21HK-223X	CAPACITOR 0.022μF, 50V
R5108			QRE141J-222Y	RESISTOR 2.2kΩ, 1/4W	C24			NCB21CK-474X	CAPACITOR 0.47μF, 16V
R5109			NRSA02J-681X	MG RESISTOR 680Ω, 1/10W	C25			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R5110			NRSA02J-224X	MG RESISTOR 220kΩ, 1/10W	C27			NDC21HJ-101X	CAPACITOR 100pF, 50V
R5111			NRSA02J-821X	MG RESISTOR 820Ω, 1/10W	C29			QEKJ1EM-475	E CAPACITOR 4.7μF, 25V
R5112			NRSA02J-821X	MG RESISTOR 820Ω, 1/10W	C30			QEKJ1EM-475	E CAPACITOR 4.7μF, 25V
R5301			QRE141J-1R8Y	RESISTOR 1.8Ω, 1/4W	C31			NCB21HK-223X	CAPACITOR 0.022μF, 50V
R5302			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	C32			NCB21HK-103X	CAPACITOR 0.01μF, 50V
R5303			NRSA02J-122X	MG RESISTOR 1.2kΩ, 1/10W	C34			QFVF1HJ-104Z	F CAPACITOR 0.1μF, 50V
△ R5304			QRZ9005-221X	FUSI RESISTOR 220Ω, 1/4W	C37			QEKJ1CM-476	E CAPACITOR 47μF, 16V
R5305			QRE141J-471Y	RESISTOR 470Ω, 1/4W	C41			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R5306			NRSA02J-333X	MG RESISTOR 33kΩ, 1/10W	C42			NCB21HK-103X	CAPACITOR 0.01μF, 50V
R5307			NRSA02J-102X	MG RESISTOR 1kΩ, 1/10W	C43			NCB21HK-103X	CAPACITOR 0.01μF, 50V
R5308			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	C45			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R5309			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W	C46			NDC21HJ-101X	CAPACITOR 100pF, 50V
R5310			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	C47			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R5311			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W	C48			QEKJ0JM-476	E CAPACITOR 47μF, 6.3V
R5312			NRSA02J-472X	MG RESISTOR 4.7kΩ, 1/10W	C49			NDC21HJ-221X	CAPACITOR 220pF, 50V
R5313			QRE141J-222Y	RESISTOR 2.2kΩ, 1/4W	C54			QEKJ1CM-106	E CAPACITOR 10μF, 16V
R5314			NRSA02J-222X	MG RESISTOR 2.2kΩ, 1/10W	C55			QEKJ1CM-106	E CAPACITOR 10μF, 16V
R5317			NRSA02J-273X	MG RESISTOR 27kΩ, 1/10W	C56			QEKJ1HM-335	E CAPACITOR 3.3μF, 50V
R5318			NRSA02J-273X	MG RESISTOR 27kΩ, 1/10W	C57			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R5319			QRE141J-511Y	RESISTOR 510Ω, 1/4W	C58			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R5320			NRSA02J-471X	MG RESISTOR 470Ω, 1/10W	C59			NCB21EK-473X	CAPACITOR 0.047μF, 25V
R5321			NRSA02J-221X	MG RESISTOR 220Ω, 1/10W	C62			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R5322			NRSA02J-473X	MG RESISTOR 47kΩ, 1/10W	C63			NDC21HG-151X	CAPACITOR 150pF, 50V
R5323			QRE141J-473Y	RESISTOR 47kΩ, 1/4W	C64			QEKJ0JM-227	E CAPACITOR 220μF, 6.3V
R5324			QRE141J-102Y	RESISTOR 1kΩ, 1/4W	C65			NCB21EK-104X	CAPACITOR 0.1μF, 25V
R5331			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W	C73			NCB21HK-103X	CAPACITOR 0.01μF, 50V
R6020			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W	C74			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W
R6021			NRSA02J-0R0X	MG RESISTOR 0Ω, 1/10W	C76			NCB21HK-103X	CAPACITOR 0.01μF, 50V

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
C77		NDC21HJ-270X	CAPACITOR 27pF,50V
C79		NDC21HJ-120X	CAPACITOR 12pF,50V
C85		NCB21HK-103X	CAPACITOR 0.01μF,50V
C86		QEKJ1CM-476	E CAPACITOR 47μF,16V
C87		NCB21HK-103X	CAPACITOR 0.01μF,50V
C88		NCB21HK-103X	CAPACITOR 0.01μF,50V
C89		NCB21HK-103X	CAPACITOR 0.01μF,50V
C90		NCB21HK-103X	CAPACITOR 0.01μF,50V
C91		NCB21EK-104X	CAPACITOR 0.1μF,25V
C92		NRSA02J-682X	MG RESISTOR 6.8kΩ,1/10W
C98		NCF21CZ-105X	CAPACITOR 1μF,16V
C107		NDC21HJ-5R0X	CAPACITOR 5pF,50V
C134		NCB21EK-104X	CAPACITOR 0.1μF,25V
C141		NCB21EK-104X	CAPACITOR 0.1μF,25V
C201		QEKJ0JM-227	E CAPACITOR 220μF,6.3V
C204		NDC21HJ-100X	CAPACITOR 10pF,50V
C206		NDC21HJ-330X	CAPACITOR 33pF,50V
C207		NDC21HJ-330X	CAPACITOR 33pF,50V
C209		NCB21CK-474X	CAPACITOR 0.47μF,16V
C212		NCB21EK-104X	CAPACITOR 0.1μF,25V
C213		QEKJ1EM-475	E CAPACITOR 4.7μF,25V
C214		NCB21CK-224X	CAPACITOR 0.22μF,16V
C215		NCB21CK-224X	CAPACITOR 0.22μF,16V
C216		QEKJ0JM-227	E CAPACITOR 220μF,6.3V
C217		NDC21HJ-560X	CAPACITOR 56pF,50V
C218		NCB21AK-105X	CAPACITOR 1μF,10V
C222		NCB21AK-105X	CAPACITOR 1μF,10V
C402		NCB21HK-103X	CAPACITOR 0.01μF,50V
C403		NDC21HJ-150X	CAPACITOR 15pF,50V
C404		NCB21HK-102X	CAPACITOR 0.001μF,50V
C406		NDC21HJ-470X	CAPACITOR 47pF,50V
C407		NCB21HK-223X	CAPACITOR 0.022μF,50V
C408		NDC21HJ-121X	CAPACITOR 120pF,50V
C409		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2002		QEKJ1CM-476	E CAPACITOR 47μF,16V
C2003		NCB21HK-123X	CAPACITOR 0.012μF,50V
C2004		QEKJ1CM-226	E CAPACITOR 22μF,16V
C2005		NCB21HK-102X	CAPACITOR 0.001μF,50V
C2006		NCB21HK-331X	CAPACITOR 330pF,50V
C2007		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2008		NCB21HK-152X	CAPACITOR 0.0015μF,50V
C2009		QEKJ1EM-475	E CAPACITOR 4.7μF,25V
C2010		QEKJ1EM-475	E CAPACITOR 4.7μF,25V
C2011		NCB21EK-333X	CAPACITOR 0.033μF,25V
C2013		NCB21EK-333X	CAPACITOR 0.033μF,25V
C2015		QEKJ1CM-226	E CAPACITOR 22μF,16V
C2016		QEKJ1EM-475	E CAPACITOR 4.7μF,25V
C2051		NCB21HK-331X	CAPACITOR 330pF,50V
C2052		QFLC1HJ-333Z	F CAPACITOR 0.033μF,50V
C2053		NCB21HK-332X	CAPACITOR 0.0033μF,50V
C2054		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2055		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2061		QFLC1HJ-333Z	F CAPACITOR 0.033μF,50V
C2062		NCB21HK-332X	CAPACITOR 0.0033μF,50V
C2063		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2064		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2101		QEKJ1EM-475	E CAPACITOR 4.7μF,25V
C2102		QEKJ1CM-226	E CAPACITOR 22μF,16V
C2151		NDC21HJ-101X	CAPACITOR 100pF,50V
C2152		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2201		QEKJ1HM-104	E CAPACITOR 0.1μF,50V

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
C2202		QEKJ1HM-104	E CAPACITOR 0.1μF,50V
C2204		QEKJ1CM-226	E CAPACITOR 22μF,16V
C2205		QEKJ1EM-475	E CAPACITOR 4.7μF,25V
C2206		QEKJ1EM-475	E CAPACITOR 4.7μF,25V
C2207		QEKJ0JM-476	E CAPACITOR 47μF,6.3V
C2208		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2209		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2210		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2211		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2212		QEKJ0JM-476	E CAPACITOR 47μF,6.3V
C2213		QERF0JM-476	E CAPACITOR,S8600EU 47μF,6.3V
		QTE1E41-476	E CAPACITOR,S9600EU 47μF,25V
C2214		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2215		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2216		QEKJ1HM-105	E CAPACITOR 1μF,50V
C2217		QEKJ1HM-105	E CAPACITOR 1μF,50V
C2218		QEKJ1CM-106	E CAPACITOR,S8600EU 10μF,16V
		QTE1E42-226	E CAPACITOR,S9600EU 22μF,25V
C2219		QEKJ1CM-106	E CAPACITOR,S8600EU 10μF,16V
		QTE1E42-226	E CAPACITOR,S9600EU 22μF,25V
C2220		QEKJ1CM-476	E CAPACITOR,S8600EU 47μF,16V
		QTE1E41-476	E CAPACITOR,S9600EU 47μF,25V
C2221		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2222		QEKJ1CM-226	E CAPACITOR 22μF,16V
C2225		QEKJ1HM-224	E CAPACITOR 0.22μF,50V
C2226		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2227		QEKJ1CM-106	E CAPACITOR 10μF,16V
C2230		NCB21CK-473X	CAPACITOR 0.047μF,16V
C2231		NCB21HK-153X	CAPACITOR 0.015μF,50V
C2232		QEKJ1HM-224	E CAPACITOR 0.22μF,50V
C2233		NCB21HK-153X	CAPACITOR 0.015μF,50V
C2234		NCB21CK-473X	CAPACITOR 0.047μF,16V
C2251		NCB21EK-104X	CAPACITOR 0.1μF,25V
C2252		NCB21HK-222X	CAPACITOR 0.0022μF,50V
C2253		NCB21HK-222X	CAPACITOR 0.0022μF,50V
C2256		NCF21EZ-104X	CAPACITOR 0.1μF,25V
C2257		QERF0JM-476	E CAPACITOR 47μF,6.3V
C2258		NCB21EK-104X	CAPACITOR 0.1μF,25V
C2259		NCB21EK-104X	CAPACITOR 0.1μF,25V
C2260		NDC21HJ-181X	CAPACITOR 180pF,50V
C2261		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2262		NDC21HJ-101X	CAPACITOR 100pF,50V
C2263		NDC21HJ-101X	CAPACITOR 100pF,50V
C2501		QEKJ0JM-107	E CAPACITOR 100μF,6.3V
C2502		NCB21HK-562X	CAPACITOR 0.0056μF,50V
C2503		QERF1HM-105	E CAPACITOR 1μF,50V
C2505		QEKJ0JM-107	E CAPACITOR 100μF,6.3V
C2506		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2507		NBE20JM-226X	T CAPACITOR 22μF,6.3V
C2508		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2509		NBE20JM-106X	T CAPACITOR 10μF,6.3V
C2510		QEKJ1CM-476	E CAPACITOR 47μF,16V
C2511		NCB21HK-222X	CAPACITOR 0.0022μF,50V
C2512		NDC21HJ-331X	CAPACITOR 330pF,50V
C2513		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2518		NCB21HK-102X	CAPACITOR 0.001μF,50V
C2519		NCB21HK-103X	CAPACITOR 0.01μF,50V
C2520		NCB21HK-103X	CAPACITOR 0.01μF,50V
C3002		NCB21HK-103X	CAPACITOR 0.01μF,50V
C3003		QEKJ1HM-106	E CAPACITOR 10μF,50V
C3004		NCB21EK-104X	CAPACITOR 0.1μF,25V

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
C3010			QEZ0244-229	EDL CAPACITOR	0.0022F,5.5V	C5205		QETN1HM-106	E CAPACITOR	10μF,50V
C3012			QEKJ0JM-107	E CAPACITOR	100μF,6.3V	C5206		QEMU1EM-187	E CAPACITOR	180μF,25V
C3013			NCB21HK-103X	CAPACITOR	0.01μF,50V	C5207		QETN1CM-227	E CAPACITOR	220μF,16V
C3014			NBE20JM-226X	T CAPACITOR	22μF,6.3V	C5208		QETN1AM-227	E CAPACITOR	220μF,10V
C3016			NCB21EK-104X	CAPACITOR	0.1μF,25V	C5301		QEMU0JM-227	E CAPACITOR	220μF,6.3V
C3019			NDC21HJ-101X	CAPACITOR	100pF,50V	C5302		QEK1CM-106	E CAPACITOR	10μF,16V
C3020			NDC21HJ-101X	CAPACITOR	100pF,50V	C5303		QETN1CM-107	E CAPACITOR	100μF,16V
C3021			NDC21HJ-101X	CAPACITOR	100pF,50V	C5304		QFLC1HJ-183Z	F CAPACITOR	0.018μF,50V
C3022			NCB21EK-104X	CAPACITOR	0.1μF,25V	C5305		NCB21HK-103X	CAPACITOR	0.01μF,50V
C3023			NBE20JM-106X	T CAPACITOR	10μF,6.3V	C5306		QETN1AM-107	E CAPACITOR	100μF,10V
C3024			NDC21HJ-220X	CAPACITOR	22pF,50V	C5307		QETN1CM-226	E CAPACITOR	22μF,16V
C3025			QAT3725-300Z	TRIM CAPACITOR,TIMER CLOCK		C5308		QETN1EM-476	E CAPACITOR	47μF,25V
C3026			NCB21HK-103X	CAPACITOR	0.01μF,50V	C5309		QETN1CM-107	E CAPACITOR	100μF,16V
C3027			NBE20JM-106X	T CAPACITOR	10μF,6.3V	C5310		QEKJ1HM-105	E CAPACITOR	1μF,50V
C3028			NDC21HJ-101X	CAPACITOR	100pF,50V	C6006		NCB21HK-103X	CAPACITOR	0.01μF,50V
C3029			NDC21HJ-101X	CAPACITOR	100pF,50V	C6007		QETN1AM-337	E CAPACITOR	330μF,10V
C3030			NBE20JM-226X	T CAPACITOR	22μF,6.3V	C6008		NCB21HK-103X	CAPACITOR	0.01μF,50V
C3031			NCB21EK-104X	CAPACITOR	0.1μF,25V	C6012		QEKJ1CM-476	E CAPACITOR	47μF,16V
C3032			NCB21EK-104X	CAPACITOR	0.1μF,25V	C6013		NCB21HK-103X	CAPACITOR	0.01μF,50V
C3033			NCB21EK-104X	CAPACITOR	0.1μF,25V	C6014		NCB21HK-103X	CAPACITOR	0.01μF,50V
C3036			NDC21HJ-180X	CAPACITOR	18pF,50V	C6016		NCB21HK-103X	CAPACITOR	0.01μF,50V
C3037			NDC21HJ-120X	CAPACITOR	12pF,50V	C6020		NDC21HJ-101X	CAPACITOR	100pF,50V
C3040			NCF21CZ-105X	CAPACITOR	1μF,16V	C6021		NDC21HJ-101X	CAPACITOR	100pF,50V
C3042			QETJ0JM-477	E CAPACITOR	470μF,6.3V	C6022		NDC21HJ-101X	CAPACITOR	100pF,50V
C3301			NBE20JM-226X	T CAPACITOR	22μF,6.3V	C6032		NCB21HK-473X	CAPACITOR	0.047μF,50V
C3302			NCB21HK-103X	CAPACITOR	0.01μF,50V	C6033		NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
C3304			NCB21HK-103X	CAPACITOR	0.01μF,50V	C6037		QEKJ1HM-106	E CAPACITOR	10μF,50V
C3501			NCB21HK-103X	CAPACITOR	0.01μF,50V	C6055		NDC21HJ-220X	CAPACITOR	22pF,50V
C3502			QEKJ1EM-335	E CAPACITOR	3.3μF,25V	L1		QQL29BJ-100Z	COIL	10μH
C3503			NCB21EK-104X	CAPACITOR	0.1μF,25V	L3		QQL071J-6R8Y	COIL	6.8μH
C3961			NCB21EK-104X	CAPACITOR	0.1μF,25V	L4		QQL29BJ-100Z	COIL	10μH
C4001			NBE20JM-226X	T CAPACITOR	22μF,6.3V	L7		QQL29BJ-100Z	COIL	10μH
C4002			NCB21EK-104X	CAPACITOR	0.1μF,25V	L9		QQL29BJ-100Z	COIL	10μH
C4003			NCB21HK-102X	CAPACITOR	0.001μF,50V	L12		QQL071J-330Y	COIL	33μH
C4004			NBE20JM-226X	T CAPACITOR	22μF,6.3V	L13		QQL071J-120Y	COIL	12μH
C4005			NCB21HK-222X	CAPACITOR	0.0022μF,50V	L14		QQL071J-820Y	COIL	82μH
C4006			NBE40JM-476X	T CAPACITOR	47μF,6.3V	L16		QQL29BJ-100Z	COIL	10μH
C4007			NCB21HK-561X	CAPACITOR	560pF,50V	L18		QQR0967-001	COIL	12μH
C4008			NCB21AK-105X	CAPACITOR	1μF,10V	L201		QQL29BK-1R0Z	COIL	1μH
C4009			NCB21HK-563X	CAPACITOR	0.056μF,50V	L202		QQL071J-330Y	COIL	33μH
C4010			NCB21EK-223X	CAPACITOR	0.022μF,25V	L203		QQL071J-220Y	COIL	22μH
C4011			NCB21EK-104X	CAPACITOR	0.1μF,25V	L204		QQL29BJ-100Z	COIL	10μH
C4012			NCB21EK-224X	CAPACITOR	0.22μF,25V	L206		QQL071J-220Y	COIL	22μH
C4013			NCB21HK-563X	CAPACITOR	0.056μF,50V	L401		QQL071J-100Y	COIL	10μH
C4014			NDC21HJ-101X	CAPACITOR	100pF,50V	L402		QQL231J-150Y	COIL	15μH
C4015			NCB21HJ-102X	CAPACITOR	0.001μF,50V	L2251		QQL29BJ-100Z	COIL	10μH
△ C5001			QFZ9051-683	F CAPACITOR	0.068μF,250V	L2252		QQL29BJ-151Z	COIL	150μH
△ C5002			QFZ9051-333	F CAPACITOR	0.033μF,250V	L2501		QQL29BJ-2R2Z	COIL	2.2μH
△ C5005			QCZ9071-222	CAPACITOR	0.0022μF,250V	L3011		NQL03BK-330X	COIL	33μH
C5006			QEZ0375-686	E CAPACITOR	68μF,400V	L3012		NQL03BK-330X	COIL	33μH
C5101			QCZ0212-472	CAPACITOR	0.0047μF,1kV	L5201		PELN1184	COIL	33μH
C5102			QCZ0302-330Z	CAPACITOR	33pF,1kV	L5202		PU60944-330K	COIL	33μH
C5104			QETN1HM-105	E CAPACITOR	1μF,50V	L6002		QQL29BJ-100Z	COIL	10μH
C5105			QFN31HJ-183	F CAPACITOR	0.018μF,50V	L6004		QQL29BJ-100Z	COIL	10μH
C5106			QCB1HJ-271	CAPACITOR	270pF,50V	L6031		QQL29BK-1R0Z	COIL	1μH
C5107			QFV91HJ-104	F CAPACITOR	0.1μF,50V	LPF2501		PELN1137	LOW PASS FILTER	
C5110			QCZ0302-330Z	CAPACITOR	33pF,1kV	CF2501		QAX0399-001Z	RESONATOR	
C5201			QEMU0JM-227	E CAPACITOR	220μF,6.3V	CF3301		PU60440-2	RESONATOR	
C5202			QEMT1CM-128	E CAPACITOR	1200μF,16V	LC2501		QQL29BJ-100Z	COIL	10μH
C5203			QEMT1AM-228	E CAPACITOR	2200μF,10V	X1		QAX0530-001	CRYSTAL RESONATOR	
C5204			QETN2AM-475	E CAPACITOR	4.7μF,100V	X3001		QAX0445-001	CRYSTAL RESONATOR	

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
		X3002	QAX0527-001 CRYSTAL RESONATOR
		S3002	QSW0695-001 PUSH SWITCH
		K5101	QQR0678-001Z FERRITE BEAD
		PC3001	GP3S123 IC(PHOTO SENSOR
		PC3002	GP3S123 IC(PHOTO SENSOR
!		PC5101	PC123F2 PH COUPLER
!		PC5301	PS2501-1 PH COUPLER
		T2051	PELN0860 OSC TRANSFORMER
		T2052	PELN0861 OSC TRANSFORMER
!		T5001	QQS0033-001 SW TRANSFORMER
		TU6001	QAU0107-001 TUNER
		ET1	PQ21623-1-5 EARTH PLATE(RF)
		ET2	LP40547-001A EARTH PLATE
		SD1	LP30563-001B SHIELD CASE(PRE/REC)
!		HS1	LP40515-001A HEAT SINK,Q5101
		HS2	LP40479-001B HEAT SINK,IC5301
		OT1	PU59915-105 #500SPACER0.01,C2213
		OT2	QYTD5F3010Z SCREW,X2TERMINAL
		OT3	QYTDST3008Z SCREW,Q5101
		OT4	QYTDST3006Z SCREW,IC5301
		FC5001	QNG0006-001Z FUSE CLIP,F5001
		FC5002	QNG0006-001Z FUSE CLIP,F5001
!		LF5001	PELN1204-01-01 LINE FILTER
!		LF5002	QQR0608-001 LINE FILTER
		CN1	QGF1028C1-13 FPC CONNECTOR,(1-13)U.DRUM
		CN2001	QGF1207C1-07 FPC CONNECTOR,(1-7)A/C HEAD
		CN2002	QGB2532J1-02 CONNECTOR,(1-2)FE HEAD
		CN3001	QGF1207C1-05 FPC CONNECTOR,(1-5)DRUM MDA
		CN3002	QGB2532J1-02 CONNECTOR,(1-2)L.MOTOR
		CN3003	QGB2015M2-08 CONNECTOR,(1-8)CAP.MOTOR
		CN3004	QGB2534J2-04 CONNECTOR,(1-4)R.ENCODER
		CN3011	QGF1207C1-14 FPC CONNECTOR,(1-14)FRONT
		CN3012	QGF1207C1-06 FPC CONNECTOR,(1-6)JOG,S8600EU
		CN3501	QGB2011L2-06 CONNECTOR,(1-6)DD MOTOR
!		CN5001	QGA7901C3-02 CONNECTOR,(1-2)AC IN
		CN7501	QGB2024K1-09S CONNECTOR,(1-9)TERMINAL
		CN7502	QGB2024K1-10S CONNECTOR,(1-10)TERMINAL
		CN7503	QGB2024K1-10S CONNECTOR,(1-10)TERMINAL
		CN7504	QGF1207C1-05 CONNECTOR,(1-5)
!		CP4001	ICP-N15 CIRCUIT PROTECTOR
!		CP5301	ICP-N38 CIRCUIT PROTECTOR
!		CP5302	ICP-N25 CIRCUIT PROTECTOR
!		F5001	QMF51E2-2R0J1 FUSE T2.0A,AC250V

3D SVHS BOARD ASSEMBLY <05>

PW1	LPA10033-10A	3D SVHS BOARD ASSY
IC1001	JCP8008	IC
IC1002	VC2076MP-XE	IC
IC1006	HA118092FP1	IC
IC1007	BA10358F-XE	IC
IC1401	JCP8010-2	IC(DIGITAL)
IC1402	MN47V77S-XE	IC
Q1004	DTC144WU	TRANSISTOR
	or RN1309	TRANSISTOR
	or UN521E	TRANSISTOR

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
		Q1005	DTC144WU TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
		Q1006	2SA1576A/QR/-X TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		Q1007	2SC4081/QRS/-X TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		Q1012	2SC4081/QRS/-X TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		Q1014	2SC4081/QRS/-X TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		Q1015	2SC4081/QRS/-X TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		Q1016	DTC144WU TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
		Q1021	2SA1576A/QR/-X TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		Q1022	DTC144WU TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR
		Q1401	2SC1317/RS/-T TRANSISTOR
		Q1402	2SC4081/QRS/-X TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		Q1403	2SC4081/QRS/-X TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		Q1404	2SC4081/S/-X TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		Q1405	2SC4081/QRS/-X TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		Q1406	2SA1576A/QR/-X TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		Q1407	2SA1576A/QR/-X TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		Q1408	2SA1576A/QR/-X TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		Q1409	2SA1576A/QR/-X TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		Q1410	2SC4081/QRS/-X TRANSISTOR
		or 2SD1819A/QRS/-X	TRANSISTOR
		or 2PC4081/R/-X	TRANSISTOR
		Q1411	2SA1576A/QR/-X TRANSISTOR
		or 2PA1576/R/-X	TRANSISTOR
		or 2SB1218A/QR/-X	TRANSISTOR
		Q1412	DTC144WU TRANSISTOR
		or RN1309	TRANSISTOR
		or UN521E	TRANSISTOR

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
Q1413			DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
Q1414			DTC144WU	TRANSISTOR	
			or UN521E	TRANSISTOR	
			or RN1309	TRANSISTOR	
Q1416			DTC144WU	TRANSISTOR	
			or RN1309	TRANSISTOR	
			or UN521E	TRANSISTOR	
Q1417			2SC4081/QRS/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
Q1418			2SC4081/QRS/-X	TRANSISTOR	
			or 2PC4081/R/-X	TRANSISTOR	
			or 2SD1819A/QRS/-X	TRANSISTOR	
D1002			1SS133	DIODE	
			or 1N4148M	DIODE	
D1003			1SS133	DIODE	
			or 1N4148M	DIODE	
D1004			1SS133	DIODE	
			or 1N4148M	DIODE	
D1006			1SS133	DIODE	
			or 1N4148M	DIODE	
D1401			RD4.3ES/B2/-T2	ZENER DIODE	
			or MTZJ4.3B	ZENER DIODE	
D1402			1SS133	DIODE	
			or 1N4148M	DIODE	
R1002			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R1003			NRSA02J-221X	MG RESISTOR	220Ω, 1/10W
R1004			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1008			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R1009			NRSA02J-125X	MG RESISTOR	1.2MΩ, 1/10W
R1010			NRVA02D-332X	CMF RESISTOR	3.3kΩ, 1/10W
R1011			NRVA02D-332X	CMF RESISTOR	3.3kΩ, 1/10W
R1012			NRVA02D-152X	CMF RESISTOR	1.5kΩ, 1/10W
R1013			NRVA02D-471X	CMF RESISTOR	470Ω, 1/10W
R1014			NRVA02D-102X	CMF RESISTOR	1kΩ, 1/10W
R1015			NRVA02D-102X	CMF RESISTOR	1kΩ, 1/10W
R1016			NRSA02J-122X	MG RESISTOR	1.2kΩ, 1/10W
R1017			NRSA02J-162X	MG RESISTOR	1.6kΩ, 1/10W
R1018			NRSA02J-151X	MG RESISTOR	150Ω, 1/10W
R1019			NRSA02J-391X	MG RESISTOR	390Ω, 1/10W
R1020			NRSA02J-332X	MG RESISTOR	3.3kΩ, 1/10W
R1021			NRSA02J-332X	MG RESISTOR	3.3kΩ, 1/10W
R1023			NRSA02J-272X	MG RESISTOR	2.7kΩ, 1/10W
R1025			NRSA02J-823X	MG RESISTOR	82kΩ, 1/10W
R1026			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1027			NRSA02J-561X	MG RESISTOR	560Ω, 1/10W
R1028			NRSA02J-561X	MG RESISTOR	560Ω, 1/10W
R1029			NRSA02J-473X	MG RESISTOR	47kΩ, 1/10W
R1030			NRSA02J-473X	MG RESISTOR	47kΩ, 1/10W
R1031			NRSA02J-562X	MG RESISTOR	5.6kΩ, 1/10W
R1032			NRSA02J-181X	MG RESISTOR	180Ω, 1/10W
R1035			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1037			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1038			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R1039			NRSA02J-394X	MG RESISTOR	390kΩ, 1/10W
R1045			NRSA02J-272X	MG RESISTOR	2.7kΩ, 1/10W
R1046			NRSA02J-273X	MG RESISTOR	27kΩ, 1/10W
R1047			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W
R1048			NRSA02J-103X	MG RESISTOR	10kΩ, 1/10W

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	
R1049			NRSA02J-475X	MG RESISTOR	4.7MΩ, 1/10W
R1053			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1054			NRSA02J-221X	MG RESISTOR	220Ω, 1/10W
R1055			NRVA02D-563X	CMF RESISTOR	56kΩ, 1/10W
R1056			NRVA02D-224X	CMF RESISTOR	220kΩ, 1/10W
R1058			NRSA02J-273X	MG RESISTOR	27kΩ, 1/10W
R1059			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1060			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1063			NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W
R1064			NRSA02J-332X	MG RESISTOR	3.3kΩ, 1/10W
R1065			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1066			NRSA02J-272X	MG RESISTOR	2.7kΩ, 1/10W
R1067			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1068			NRSA02J-361X	MG RESISTOR	360Ω, 1/10W
R1069			NRSA02J-471X	MG RESISTOR	470Ω, 1/10W
R1070			NRSA02J-391X	MG RESISTOR	390Ω, 1/10W
R1071			NRSA02J-104X	MG RESISTOR	100kΩ, 1/10W
R1072			NRSA02J-682X	MG RESISTOR	6.8kΩ, 1/10W
R1073			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1401			NRSA02J-331X	MG RESISTOR	330Ω, 1/10W
R1402			NRSA02J-101X	MG RESISTOR	100Ω, 1/10W
R1403			NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R1404			NRSA02J-123X	MG RESISTOR	12kΩ, 1/10W
R1405			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1406			NRSA02J-471X	MG RESISTOR	470Ω, 1/10W
R1407			NRSA02J-821X	MG RESISTOR	820Ω, 1/10W
R1408			NRSA02J-222X	MG RESISTOR	2.2kΩ, 1/10W
R1409			NRSA02J-681X	MG RESISTOR	680Ω, 1/10W
R1410			NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R1411			NRSA02J-243X	MG RESISTOR	24kΩ, 1/10W
R1412			NRSA02J-104X	MG RESISTOR	100kΩ, 1/10W
R1413			NRSA02J-471X	MG RESISTOR	470Ω, 1/10W
R1414			NRSA02J-331X	MG RESISTOR	330Ω, 1/10W
R1415			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1416			NRSA02J-471X	MG RESISTOR	470Ω, 1/10W
R1417			NRSA02J-821X	MG RESISTOR	820Ω, 1/10W
R1418			NRSA02J-471X	MG RESISTOR	470Ω, 1/10W
R1419			NRSA02J-221X	MG RESISTOR	220Ω, 1/10W
R1420			NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W
R1422			NRSA02J-391X	MG RESISTOR	390Ω, 1/10W
R1423			NRSA02J-821X	MG RESISTOR	820Ω, 1/10W
R1425			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1428			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1429			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1430			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1431			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1432			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1433			NRSA02J-0R0X	MG RESISTOR	0Ω, 1/10W
R1434			NRSA02J-473X	MG RESISTOR	47kΩ, 1/10W
R1435			NRSA02J-242X	MG RESISTOR	2.4kΩ, 1/10W
R1436			NRSA02J-153X	MG RESISTOR	15kΩ, 1/10W
R1437			NRSA02J-123X	MG RESISTOR	12kΩ, 1/10W
R1438			NRSA02J-821X	MG RESISTOR	820Ω, 1/10W
R1439			NRSA02J-101X	MG RESISTOR	100Ω, 1/10W
R1440			NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R1442			NRSA02J-223X	MG RESISTOR	22kΩ, 1/10W
R1443			NRSA02J-472X	MG RESISTOR	4.7kΩ, 1/10W
R1444			NRSA02J-221X	MG RESISTOR	220Ω, 1/10W
R1445			NRSA02J-102X	MG RESISTOR	1kΩ, 1/10W
R1446			NRSA02J-222X	MG RESISTOR	2.2kΩ, 1/10W
R1447			NRSA02J-152X	MG RESISTOR	1.5kΩ, 1/10W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION		#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
R1448		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C1047		NDC21HJ-101X	CAPACITOR	100pF,50V
R1449		NRSA02J-470X	MG RESISTOR	47Ω,1/10W	C1048		NDC21HJ-181X	CAPACITOR	180pF,50V
R1451		NRSA02J-681X	MG RESISTOR	680Ω,1/10W	C1049		NDC21HG-301X	CAPACITOR	300pF,50V
R1452		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C1050		NDC21HG-301X	CAPACITOR	300pF,50V
R1454		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C1056		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1455		NRSA02J-471X	MG RESISTOR	470Ω,1/10W	C1057		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1456		NRSA02J-471X	MG RESISTOR	470Ω,1/10W	C1058		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1457		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C1063		NDC21HJ-101X	CAPACITOR	100pF,50V
R1458		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C1064		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1459		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W	C1065		QEKJ0JM-227	E CAPACITOR	220μF,6.3V
R1460		NRSA02J-104X	MG RESISTOR	100kΩ,1/10W	C1066		NCB21EK-223X	CAPACITOR	0.022μF,25V
R1461		NRSA02J-182X	MG RESISTOR	1.8kΩ,1/10W	C1067		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1462		NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W	C1068		QEKJ1HM-105	E CAPACITOR	1μF,50V
R1463		NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W	C1069		QEKJ1CM-106	E CAPACITOR	10μF,16V
R1465		NRSA02J-821X	MG RESISTOR	820Ω,1/10W	C1070		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1467		NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W	C1071		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1468		NRSA02J-162X	MG RESISTOR	1.6kΩ,1/10W	C1072		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1470		NRSA02J-103X	MG RESISTOR	10kΩ,1/10W	C1073		NDC21HJ-150X	CAPACITOR	15pF,50V
R1471		NRSA02J-333X	MG RESISTOR	33kΩ,1/10W	C1074		NCB21HK-103X	CAPACITOR	0.01μF,50V
R1472		NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W	C1082		NCB21HK-103X	CAPACITOR	0.01μF,50V
VR1002		QVZ3521-104Z	V RESISTOR,P,BURST LEVEL ADJ		C1086		NCB21HK-103X	CAPACITOR	0.01μF,50V
VR1401		QVP0039-103Z	TRIM RESISTOR,D/A LEVEL ADJ		C1087		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1001		QEKJ0JM-476	E CAPACITOR	47μF,6.3V	C1088		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1002		QEKJ1HM-474	E CAPACITOR	0.47μF,50V	C1089		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1003		QEKJ1CM-106	E CAPACITOR	10μF,16V	C1092		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1005		QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C1095		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1006		NCB21HK-103X	CAPACITOR	0.01μF,50V	C1401		QEKJ1CM-336	E CAPACITOR	33μF,16V
C1007		NCF21EZ-104X	CAPACITOR	0.1μF,25V	C1402		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1010		NCF21EZ-104X	CAPACITOR	0.1μF,25V	C1403		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1011		NDC21HJ-150X	CAPACITOR	15pF,50V	C1404		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1013		NCF21EZ-104X	CAPACITOR	0.1μF,25V	C1405		NDC21HJ-220X	CAPACITOR	22pF,50V
C1014		QEKJ1HM-225	E CAPACITOR	2.2μF,50V	C1406		NDC21HJ-6R0X	CAPACITOR	6pF,50V
C1015		QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C1407		NDC21HJ-390X	CAPACITOR	39pF,50V
C1016		QEKJ1HM-225	E CAPACITOR	2.2μF,50V	C1408		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1017		NCB21HK-103X	CAPACITOR	0.01μF,50V	C1409		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1019		NCB21HK-103X	CAPACITOR	0.01μF,50V	C1410		QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1020		NCB21HK-103X	CAPACITOR	0.01μF,50V	C1411		QEKJ1CM-106	E CAPACITOR	10μF,16V
C1021		NCB21HK-103X	CAPACITOR	0.01μF,50V	C1412		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1022		QEKJ1HM-105	E CAPACITOR	1μF,50V	C1413		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1023		QEKJ1HM-225	E CAPACITOR	2.2μF,50V	C1414		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1024		NCB21HK-103X	CAPACITOR	0.01μF,50V	C1415		NDC21HJ-221X	CAPACITOR	220pF,50V
C1026		NCF21EZ-104X	CAPACITOR	0.1μF,25V	C1416		NDC21HJ-391X	CAPACITOR	390pF,50V
C1027		NCF21EZ-104X	CAPACITOR	0.1μF,25V	C1417		NDC21HJ-680X	CAPACITOR	68pF,50V
C1028		QEKJ0JM-337	E CAPACITOR	330μF,6.3V	C1418		NDC21HJ-8R0X	CAPACITOR	8pF,50V
C1029		QEKJ1HM-104	E CAPACITOR	0.1μF,50V	C1419		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1030		QEKJ1HM-105	E CAPACITOR	1μF,50V	C1420		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1031		QEKJ1HM-225	E CAPACITOR	2.2μF,50V	C1421		NDC21HJ-680X	CAPACITOR	68pF,50V
C1033		QEKJ1HM-105	E CAPACITOR	1μF,50V	C1422		NDC21HJ-330X	CAPACITOR	33pF,50V
C1034		QEPF1HM-105	NP E CAPACITOR	1μF,50V	C1424		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1035		QEKJ1EM-475	E CAPACITOR	4.7μF,25V	C1425		QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1036		QEKJ0JM-226	E CAPACITOR	22μF,6.3V	C1426		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1037		QEKJ1HM-225	E CAPACITOR	2.2μF,50V	C1427		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1038		QEKJ1HM-225	E CAPACITOR	2.2μF,50V	C1428		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1039		QEKJ1CM-476	E CAPACITOR	47μF,16V	C1429		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1040		NCB21HK-103X	CAPACITOR	0.01μF,50V	C1430		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1041		NDC21HG-301X	CAPACITOR	300pF,50V	C1431		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1042		NDC21HG-301X	CAPACITOR	300pF,50V	C1432		QEKJ1EM-475	E CAPACITOR	4.7μF,25V
C1043		NDC21HG-221X	CAPACITOR	220pF,50V	C1433		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1044		NDC21HG-820X	CAPACITOR	82pF,50V	C1434		QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1045		NCB21HK-103X	CAPACITOR	0.01μF,50V	C1435		QEKJ1HM-105	E CAPACITOR	1μF,50V
C1046		NDC21HG-271X	CAPACITOR	270pF,50V	C1436		NCF21EZ-104X	CAPACITOR	0.1μF,25V

#	REF No.	PART No.	PART NAME, DESCRIPTION	
C1437		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1438		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1439		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1440		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1441		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1442		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1443		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1444		QEKJ1HM-105	E CAPACITOR	1μF,50V
C1445		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1446		NCB21EK-104X	CAPACITOR	0.1μF,25V
C1447		NCB21HK-222X	CAPACITOR	0.0022μF,50V
C1448		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1449		QEKJ0JM-337	E CAPACITOR	330μF,6.3V
C1450		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1451		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1454		NDC21HJ-220X	CAPACITOR	22pF,50V
C1455		NDC21HJ-390X	CAPACITOR	39pF,50V
C1457		NCF21EZ-104X	CAPACITOR	0.1μF,25V
C1458		NCB21HK-103X	CAPACITOR	0.01μF,50V
C1459		NDC21HJ-470X	CAPACITOR	47pF,50V
C1460		NDC21HJ-470X	CAPACITOR	47pF,50V
C1461		NDC21HJ-470X	CAPACITOR	47pF,50V
C1462		NDC21HJ-470X	CAPACITOR	47pF,50V
C1463		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C1464		NDC21HJ-330X	CAPACITOR	33pF,50V
C1465		NDC21HJ-470X	CAPACITOR	47pF,50V
C1468		NDC21HJ-470X	CAPACITOR	47pF,50V
C1469		NDC21HJ-470X	CAPACITOR	47pF,50V
C1470		NDC21HJ-470X	CAPACITOR	47pF,50V
C1471		NDC21HJ-470X	CAPACITOR	47pF,50V
C1472		NDC21HJ-470X	CAPACITOR	47pF,50V
C1473		NDC21HJ-470X	CAPACITOR	47pF,50V
L1001		QQL29BJ-220Z	COIL	22μH
L1004		QQL071J-680Y	COIL	68μH
L1006		QQL29BJ-101Z	COIL	100μH
L1008		QQL29BJ-100Z	COIL	10μH
L1401		QQL071J-330Y	COIL	33μH
L1402		QQL29BJ-100Z	COIL	10μH
L1404		QQL071J-8R2Y	COIL	8.2μH
L1405		QQL071J-150Y	COIL	15μH
L1406		QQL071J-6R8Y	COIL	6.8μH
L1407		QQL29BJ-100Z	COIL	10μH
L1408		QQL29BJ-100Z	COIL	10μH
L1409		QQL071J-330Y	COIL	33μH
L1410		QQL29BJ-4R7Z	COIL	4.7μH
L1411		QQL071J-1R0Y	COIL	1μH
LC1401		QQR0657-013Z	NOISE FILTER	
LC1402		QQR0657-010Z	NOISE FILTER	
SD1		LP30621-001A	SHIELD CASE(SVHS 3D)	
SD2		LP30406-001A	SHIELD PLATE(SVHS)	
BK1		LP40077-001A	BRACKET(BOARD)	
CN1001		QGG2503K2-30	HEADER PIN	
CN1002		QGG2503K2-30	HEADER PIN	
CN1003		QGF1217F1-07	FPC CONNECTOR,(1-7)TERMINAL	

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
R7134		NRSA02J-472X	MG RESISTOR	4.7kΩ,1/10W
R7135		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7136		NRSA02J-272X	MG RESISTOR	2.7kΩ,1/10W
R7137		NRSA02J-102X	MG RESISTOR	1kΩ,1/10W
R7138		NRSA02J-561X	MG RESISTOR	560Ω,1/10W
R7139		NRSA02J-682X	MG RESISTOR	6.8kΩ,1/10W
R7140		NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7141		NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7142		NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7143		NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7144		NRSA02J-750X	MG RESISTOR	75Ω,1/10W
R7145		NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7146		NRSA02J-101X	MG RESISTOR	100Ω,1/10W
R7147		NRSA02J-222X	MG RESISTOR	2.2kΩ,1/10W
R7149		NRSA02J-223X	MG RESISTOR	22kΩ,1/10W
R7157		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
R7162		NRSA02J-101X	MG RESISTOR	100Ω,1/10W
C7102		QETJ0JM-477	E CAPACITOR	470μF,6.3V
C7103		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7104		QEKJ1CM-476	E CAPACITOR	47μF,16V
C7105		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7106		NCB21HK-223X	CAPACITOR	0.022μF,50V
C7108		NCB21HK-223X	CAPACITOR	0.022μF,50V
C7109		QEKJ1CM-476	E CAPACITOR	47μF,16V
C7110		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7112		NDC21HJ-330X	CAPACITOR	33pF,50V
C7113		NCB21HK-223X	CAPACITOR	0.022μF,50V
C7114		NCB21HK-223X	CAPACITOR	0.022μF,50V
C7115		NCB21HK-681X	CAPACITOR	680pF,50V
C7116		NCB21HK-681X	CAPACITOR	680pF,50V
C7119		NCB21HK-102X	CAPACITOR	0.001μF,50V
C7120		NCB21HK-102X	CAPACITOR	0.001μF,50V
C7124		QEKJ1CM-476	E CAPACITOR	47μF,16V
C7125		QEKJ1CM-476	E CAPACITOR	47μF,16V
C7126		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C7127		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7128		NCB21HK-681X	CAPACITOR	680pF,50V
C7129		NCB21HK-681X	CAPACITOR	680pF,50V
C7133		NCB21HK-102X	CAPACITOR	0.001μF,50V
C7134		NCB21HK-102X	CAPACITOR	0.001μF,50V
C7137		QEKJ1CM-107	E CAPACITOR	100μF,16V
C7138		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7139		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7140		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7142		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7143		QEKJ1CM-106	E CAPACITOR	10μF,16V
C7144		NCB21HK-103X	CAPACITOR	0.01μF,50V
C7146		NRSA02J-0R0X	MG RESISTOR	0Ω,1/10W
C7147		QEKJ1CM-106	E CAPACITOR	10μF,16V
C7148		NDC21HJ-101X	CAPACITOR	100pF,50V
C7150		NCB21HK-102X	CAPACITOR	0.001μF,50V
C7152		NCB21HK-102X	CAPACITOR	0.001μF,50V
C7158		NDC21HJ-470X	CAPACITOR	47pF,50V
C7161		QEKJ1CM-476	E CAPACITOR	47μF,16V
L7105		QQL231J-1R0Y	COIL	1μH
L7107		QQL231J-R22Y	COIL	0.22μH
L7108		QQL231J-4R7Y	COIL	4.7μH
L7109		QQL231J-4R7Y	COIL	4.7μH
L7110		QQL231J-4R7Y	COIL	4.7μH
L7111		QQL231J-4R7Y	COIL	4.7μH
L7112		QQL231J-1R0Y	COIL	1μH

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
L7113		QQL231J-4R7Y	COIL	4.7μH
L7114		QQL231J-4R7Y	COIL	4.7μH
L7115		QQL231J-4R7Y	COIL	4.7μH
L7116		QQL231J-4R7Y	COIL	4.7μH
L7121		QQL231J-4R7Y	COIL	4.7μH
L7123		QQL231J-4R7Y	COIL	4.7μH
SW7101		QSW0693-001	SLIDE SWITCH	
ET1		PQ21987-1-1	EARTH PLATE(TERMINAL)	
△ TB1		LP30562-001A	TERMINAL BOARD ASSY	
OT1		QYTDSF3008Z	SCREW,X8	
J7101		PEMC1177	RGB21PIN SOCKET,AV1	
J7102		PEMC1177	RGB21PIN SOCKET,AV2	
J7103		QNN0023-002	PIN JACK,A.OUT(R),S8600EU	
		QNN0021-002	PIN JACK,A.OUT(R),S9600EU	
J7104		QNN0021-003	PIN JACK,A.OUT(L),S9600EU	
		QNN0023-003	PIN JACK,A.OUT(L),S8600EU	
J7107		QND0009-001	S JACK,S OUT,S8600EU	
		QND0010-001	S JACK,S OUT,S9600EU	
J7108		PEMC1190	MINI JACK,JLIP	
J7109		QNS0150-001	2.5 JACK,LANC	
J7110		PU60659	MINI JACK,R.PAUSE	
CN7101		QGB2024J1-09S	CONNECTOR,(1-9)MAIN	
CN7102		QGB2024J1-10S	CONNECTOR,(1-10)MAIN	
CN7103		QGB2024J1-10S	CONNECTOR,(1-10)MAIN	
CN7104		QGF1208F1-07	FPC CONNECTOR,(1-7)	
CN7105		QGF1208F1-04	FPC CONNECTOR,(1-4)	

AUDIO CONTROL HEAD BOARD ASSEMBLY <12>

PW1	LPA10010-01A1	A/C HEAD BOARD ASSY
CN1	QGF1208F1-07	FPC CONNECTOR

DEMOD BOARD ASSEMBLY <14>

PW1	LPA10021-03B	DEMOD BOARD ASSY
IC6701	MSP34VCD	IC
	or MSP3415D	IC
Q6701	2SC3068	TRANSISTOR
Q6702	2SC3354/TS-T	TRANSISTOR
Q6704	DTC114EU	TRANSISTOR
	or UN5211	TRANSISTOR
	or PDTC114EU	TRANSISTOR
Q6705	DTC114EU	TRANSISTOR
	or UN5211	TRANSISTOR
	or PDTC114EU	TRANSISTOR
D6702	MTZJ9.1B	ZENER DIODE
D6703	1N4148M	DIODE
	or 1SS133	DIODE
D6704	1N4148M	DIODE
	or 1SS133	DIODE
R6701	NRSA02J-101X	MG RESISTOR

100Ω,1/10W

#	△	REF No.	PART No.	PART NAME, DESCRIPTION	#	△	REF No.	PART No.	PART NAME, DESCRIPTION
R6702			NRSA02J-101X	MG RESISTOR 100Ω,1/10W	D7002			RD9.1ES/B2/-T2	ZENER DIODE
R6703			NRSA02J-271X	MG RESISTOR 270Ω,1/10W				or MTZJ9.1B	ZENER DIODE
R6704			NRSA02J-101X	MG RESISTOR 100Ω,1/10W				or UZ9.1BSB	ZENER DIODE
R6705			NRSA02J-472X	MG RESISTOR 4.7kΩ,1/10W	D7004			1SS133	DIODE
R6706			NRSA02J-392X	MG RESISTOR 3.9kΩ,1/10W	D7005			1SS133	DIODE
R6707			NRSA02J-470X	MG RESISTOR 47Ω,1/10W	D7006			1SS133	DIODE
R6708			NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	D7009			SLR-342DC3F	LE DIODE
R6709			NRSA02J-271X	MG RESISTOR 270Ω,1/10W	D7010			SLR-342VC3F	LE DIODE
R6710			NRSA02J-151X	MG RESISTOR 150Ω,1/10W	D7011			SLR-342MC3F	LE DIODE
R6712			NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R7001			QRE141J-471Y	RESISTOR 470Ω,1/4W
R6713			NRSA02J-103X	MG RESISTOR 10kΩ,1/10W	R7002			QRE141J-471Y	RESISTOR 470Ω,1/4W
R6714			NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R7003			QRE141J-471Y	RESISTOR 470Ω,1/4W
R6715			NRSA02J-223X	MG RESISTOR 22kΩ,1/10W	R7004			QRE141J-471Y	RESISTOR 470Ω,1/4W
R6716			NRSA02J-102X	MG RESISTOR 1kΩ,1/10W	R7005			QRE141J-103Y	RESISTOR 10kΩ,1/4W
R6717			NRSA02J-223X	MG RESISTOR 22kΩ,1/10W	R7006			QRE141J-103Y	RESISTOR 10kΩ,1/4W
R6718			NRSA02J-684X	MG RESISTOR 680kΩ,1/10W	R7007			QRE141J-103Y	RESISTOR 10kΩ,1/4W
C6703			QEKJ1CM-336	E CAPACITOR 33μF,16V	R7008			QRE141J-103Y	RESISTOR 10kΩ,1/4W
C6704			QEKJ1CM-107	E CAPACITOR 100μF,16V	R7009			QRE141J-153Y	RESISTOR 15kΩ,1/4W
C6705			NCB21HK-103X	CAPACITOR 0.01μF,50V	R7010			QRE141J-103Y	RESISTOR 10kΩ,1/4W
C6706			NCB21HK-223X	CAPACITOR 0.022μF,50V	R7013			QRE141J-103Y	RESISTOR 10kΩ,1/4W
C6707			NCB21HK-103X	CAPACITOR 0.01μF,50V	R7020			QRE141J-103Y	RESISTOR 10kΩ,1/4W
C6708			NCB21HK-103X	CAPACITOR 0.01μF,50V	R7021			QRE141J-122Y	RESISTOR 1.2kΩ,1/4W
C6709			QEKJ1CM-336	E CAPACITOR 33μF,16V	R7022			QRE141J-182Y	RESISTOR 1.8kΩ,1/4W
C6710			NCB21HK-682X	CAPACITOR 0.0068μF,50V	R7023			QRE141J-222Y	RESISTOR 2.2kΩ,1/4W
C6711			NCB21HK-682X	CAPACITOR 0.0068μF,50V	R7024			QRE141J-272Y	RESISTOR 2.7kΩ,1/4W
C6712			QEKJ1HM-225	E CAPACITOR 2.2μF,50V	R7025			QRE141J-472Y	RESISTOR 4.7kΩ,1/4W
C6713			QEKJ1HM-225	E CAPACITOR 2.2μF,50V	R7026			QRE141J-682Y	RESISTOR 6.8kΩ,1/4W
C6714			NCF21CZ-224X	CAPACITOR 0.22μF,16V	R7027			QRE141J-153Y	RESISTOR 15kΩ,1/4W
C6717			NCB21HK-223X	CAPACITOR 0.022μF,50V	R7028			QRE141J-393Y	RESISTOR 39kΩ,1/4W
C6718			QEKJ1CM-336	E CAPACITOR 33μF,16V	R7030			QRE141J-103Y	RESISTOR 10kΩ,1/4W
C6719			QEKJ1CM-106	E CAPACITOR 10μF,16V	R7031			QRE141J-122Y	RESISTOR 1.2kΩ,1/4W
C6720			QEKJ1CM-106	E CAPACITOR 10μF,16V	R7032			QRE141J-182Y	RESISTOR 1.8kΩ,1/4W
C6721			NCB21HK-103X	CAPACITOR 0.01μF,50V	R7033			QRE141J-222Y	RESISTOR 2.2kΩ,1/4W
C6722			QEKJ1CM-106	E CAPACITOR 10μF,16V	R7034			QRE141J-153Y	RESISTOR 15kΩ,1/4W
C6723			NCB21HK-103X	CAPACITOR 0.01μF,50V	R7037			QRE141J-153Y	RESISTOR 15kΩ,1/4W
C6727			NDC21HJ-470X	CAPACITOR 47pF,50V	R7038			QRE141J-393Y	RESISTOR 39kΩ,1/4W
C6728			NDC21HJ-470X	CAPACITOR 47pF,50V	R7040			QRE141J-331Y	RESISTOR 330Ω,1/4W
C6729			NDC21HJ-8R0X	CAPACITOR 8pF,50V	R7041			QRE141J-331Y	RESISTOR 330Ω,1/4W
C6730			NDC21HJ-1R0X	CAPACITOR 1pF,50V	R7042			QRE141J-331Y	RESISTOR 330Ω,1/4W
L6701			QQL29BK-1R0Z	COIL 1μH	C7001			QCFB1HZ-104	CAPACITOR 0.1μF,50V
L6702			QQL29BJ-3R3Z	COIL 3.3μH	C7002			QETC1HM-106	E CAPACITOR 10μF,50V
L6703			QQL231J-390Y	COIL 39μH	C7007			QETN1HM-476	E CAPACITOR 47μF,50V
L6704			QQL29BK-1R0Z	COIL 1μH	C7009			QCSB1HJ-150	CAPACITOR 15pF,50V
L6705			QQL231J-100Y	COIL 10μH	C7010			QCFB1HZ-104	CAPACITOR 0.1μF,50V
LC6701			QQR0657-013	NOISE FILTER	C7011			QETN1AM-227	E CAPACITOR 220μF,10V
X6701			QAX0443-001	CRYSTAL RESONATOR	C7019			QDVB1EZ-223Y	CAPACITOR 0.022μF,25V
BK1			LP40077-001A	BRACKET(BOARD)	S7001			QSW0456-002Z	TACT SWITCH,POWER
CN6701			QGG2502K1-11	HEADER PIN(1-11)	S7002			QSW0456-002Z	TACT SWITCH,CH+
					S7003			QSW0456-002Z	TACT SWITCH,CH-
					S7004			QSW0456-002Z	TACT SWITCH,REC
					S7005			QSW0456-002Z	TACT SWITCH,PAUSE
					S7006			QSW0456-002Z	TACT SWITCH,PLAY
					S7007			QSW0456-002Z	TACT SWITCH,STOP/EJECT
					S7010			QSW0456-002Z	TACT SWITCH,TBC
					S7011			QSW0456-002Z	TACT SWITCH,TIMER
					S7012			QSW0456-002Z	TACT SWITCH,REVIEW
					S7013			QSW0456-002Z	TACT SWITCH,REC LINK
					S7014			QSW0456-002Z	TACT SWITCH,SP/LP
					S7015			QSW0456-002Z	TACT SWITCH,SYNC.EDIT
					S7016			QSW0456-002Z	TACT SWITCH,INSERT
					S7017			QSW0456-002Z	TACT SWITCH,A.DUB

SW/DISPLAY BOARD ASSEMBLY(S8600EU) <28>

PW1	LPA10056-04A1	DISPLAY BOARD ASSY
IC7001	M35500BGP	IC
	or M35500AGP	IC
	or M35500BFP	IC
IC7002	PNA4652M00XB	IR DETECT UNIT
	or GP1U281X	IR DETECT UNIT

#	△ REF No.	PART No.	PART NAME, DESCRIPTION
DI7001		QLF0032-002	FL TUBE
HD1		LP30428-001A	FDP HOLDER(L),DI7001
HD2		LP30429-001A	FDP HOLDER(R),DI7001
HD3		PQM30038-2-2	LED HOLDER,D7009
HD4		PQM30038-1-2	LED HOLDER,D7010
HD5		PQM30038-2-2	LED HOLDER,D7011
CN7001		QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN

SW/DISPLAY BOARD ASSEMBLY(S9600EU) <28>

PW1	LPA10067-01B1	DISPLAY BOARD ASSY	
IC7001	M35500BGP	IC	
	or M35500AGP	IC	
	or M35500BFP	IC	
IC7002	PNA4652M00XB	IR DETECT UNIT	
	or GP1U281X	IR DETECT UNIT	
Q7001	DTC144WS	TRANSISTOR	
Q7002	2SC1740S/QRS/-T	TRANSISTOR	
	or 2SC3199/YG/-T	TRANSISTOR	
Q7003	2SA933AS/QRS/-T	TRANSISTOR	
	or 2SA1267/YG/-T	TRANSISTOR	
D7002	RD9.1ES/B2/-T2	ZENER DIODE	
	or MTZJ9.1B	ZENER DIODE	
	or UZ9.1BSB	ZENER DIODE	
D7004	1SS133	DIODE	
D7005	1SS133	DIODE	
D7006	1SS133	DIODE	
D7007	1SS133	DIODE	
D7012	1SS133	DIODE	
D7013	1SS133	DIODE	
D7014	1SS133	DIODE	
R7001	QRE141J-471Y	RESISTOR	470Ω, 1/4W
R7002	QRE141J-471Y	RESISTOR	470Ω, 1/4W
R7003	QRE141J-471Y	RESISTOR	470Ω, 1/4W
R7004	QRE141J-471Y	RESISTOR	470Ω, 1/4W
R7005	QRE141J-103Y	RESISTOR	10kΩ, 1/4W
R7006	QRE141J-103Y	RESISTOR	10kΩ, 1/4W
R7007	QRE141J-103Y	RESISTOR	10kΩ, 1/4W
R7008	QRE141J-103Y	RESISTOR	10kΩ, 1/4W
R7009	QRE141J-103Y	RESISTOR	10kΩ, 1/4W
R7010	QRE141J-153Y	RESISTOR	15kΩ, 1/4W
R7013	QRE141J-103Y	RESISTOR	10kΩ, 1/4W
R7020	QRE141J-103Y	RESISTOR	10kΩ, 1/4W
R7021	QRE141J-122Y	RESISTOR	1.2kΩ, 1/4W
R7022	QRE141J-182Y	RESISTOR	1.8kΩ, 1/4W
R7023	QRE141J-222Y	RESISTOR	2.2kΩ, 1/4W
R7024	QRE141J-272Y	RESISTOR	2.7kΩ, 1/4W
R7025	QRE141J-472Y	RESISTOR	4.7kΩ, 1/4W
R7026	QRE141J-682Y	RESISTOR	6.8kΩ, 1/4W
R7027	QRE141J-153Y	RESISTOR	15kΩ, 1/4W
R7028	QRE141J-393Y	RESISTOR	39kΩ, 1/4W
R7030	QRE141J-103Y	RESISTOR	10kΩ, 1/4W
R7031	QRE141J-122Y	RESISTOR	1.2kΩ, 1/4W
R7032	QRE141J-182Y	RESISTOR	1.8kΩ, 1/4W
R7033	QRE141J-222Y	RESISTOR	2.2kΩ, 1/4W
R7034	QRE141J-272Y	RESISTOR	2.7kΩ, 1/4W
R7035	QRE141J-472Y	RESISTOR	4.7kΩ, 1/4W

#	△ REF No.	PART No.	PART NAME, DESCRIPTION	
R7036		QRE141J-682Y	RESISTOR	6.8kΩ, 1/4W
R7037		QRE141J-153Y	RESISTOR	15kΩ, 1/4W
R7038		QRE141J-393Y	RESISTOR	39kΩ, 1/4W
R7040		QRE141J-331Y	RESISTOR	330Ω, 1/4W
R7041		QRE141J-331Y	RESISTOR	330Ω, 1/4W
R7042		QRE141J-331Y	RESISTOR	330Ω, 1/4W
R7044		QRE141J-104Y	RESISTOR	100kΩ, 1/4W
R7045		QRE141J-102Y	RESISTOR	1kΩ, 1/4W
R7046		QRE141J-394Y	RESISTOR	390kΩ, 1/4W
R7047		QRE141J-101Y	RESISTOR	100Ω, 1/4W
R7048		QRE141J-472Y	RESISTOR	4.7kΩ, 1/4W
C7001		QCFB1HZ-104	CAPACITOR	0.1μF, 50V
C7002		QETC1HM-106	E CAPACITOR	10μF, 50V
C7007		QETN1HM-476	E CAPACITOR	47μF, 50V
C7009		QCSB1HJ-150	CAPACITOR	15pF, 50V
C7010		QCFB1HZ-104	CAPACITOR	0.1μF, 50V
C7011		QETN1AM-227	E CAPACITOR	220μF, 10V
C7019		QDVB1EZ-223Y	CAPACITOR	0.022μF, 25V
C7022		QDVB1EZ-223Y	CAPACITOR	0.022μF, 25V
C7192		QCB1HJ-681	CAPACITOR	680pF, 50V
C7194		QCB1HJ-681	CAPACITOR	680pF, 50V
L7191		QRE141J-101Y	RESISTOR	100Ω, 1/4W
L7192		QRE141J-101Y	RESISTOR	100Ω, 1/4W
S7001		QSW0456-002Z	TACT SWITCH, POWER	
S7002		QSW0456-002Z	TACT SWITCH, A.MONITOR	
S7003		QSW0456-002Z	TACT SWITCH, C.RESET	
S7004		QSW0456-002Z	TACT SWITCH, OK	
S7005		QSW0456-002Z	TACT SWITCH, RAE	
S7006		QSW0456-002Z	TACT SWITCH, PROGRAM	
S7007		QSW0456-002Z	TACT SWITCH, STOP/EJECT	
S7008		QSW0456-002Z	TACT SWITCH, MARK	
S7009		QSW0456-002Z	TACT SWITCH, ERASE	
S7010		QSW0456-002Z	TACT SWITCH, TBC	
S7011		QSW0456-002Z	TACT SWITCH, SP/LP	
S7012		QSW0456-002Z	TACT SWITCH, TIMER	
S7013		QSW0456-002Z	TACT SWITCH, REC LINK	
S7014		QSW0456-002Z	TACT SWITCH, TV/VCR	
S7015		QSW0456-002Z	TACT SWITCH, SYNC.EDIT	
S7016		QSW0456-002Z	TACT SWITCH, REVIEW	
S7017		QSW0456-002Z	TACT SWITCH, DISPLAY	
DI7001		QLF0032-002	FL TUBE	
HD1		LP30428-001A	FDP HOLDER(L),DI7001	
HD2		LP30429-001A	FDP HOLDER(R),DI7001	
J7191		PEMC1126-04	PIN JACK, VIDEO IN	
J7192		PEMC0922-03	PIN JACK(SW),A(L)IN	
J7193		PEMC0922-02	PIN JACK(SW),A(R)IN	
J7194		QND0010-001	S JACK, S VIDEO	
CN7001		QGF1207C1-14	FPC CONNECTOR,(1-14)MAIN	
CN7002		QGF1202C1-08	FPC CONNECTOR,(1-8)DOOR	
CN7191		QGF1207C1-05	FPC CONNECTOR,(3-7)MAIN	
CN7192		QGF1207C1-04	FPC CONNECTOR,(1-4)MAIN	

REC SAFETY BOARD ASSEMBLY(S8600EU) <32>

PW2	LPA10056-01A2	REC SAFETY BOARD ASSY
S7041	QSW0602-003	PUSH SWITCH
FW7001	QUM032-07A4A4	PARA RIBON WIRE

△ REF No. PART No. PART NAME, DESCRIPTION

△ REF No. PART No. PART NAME, DESCRIPTION

REC SAFETY BOARD ASSEMBLY(S9600EU) <32>

PW2	LPA10067-01B2	REC SAFETY BOARD ASSY
S7041	QSW0602-003	PUSH SWITCH
FW7001	QUM032-07A4A4	PARA RIBON WIRE

JACK BOARD ASSEMBLY(S8600EU) <36>

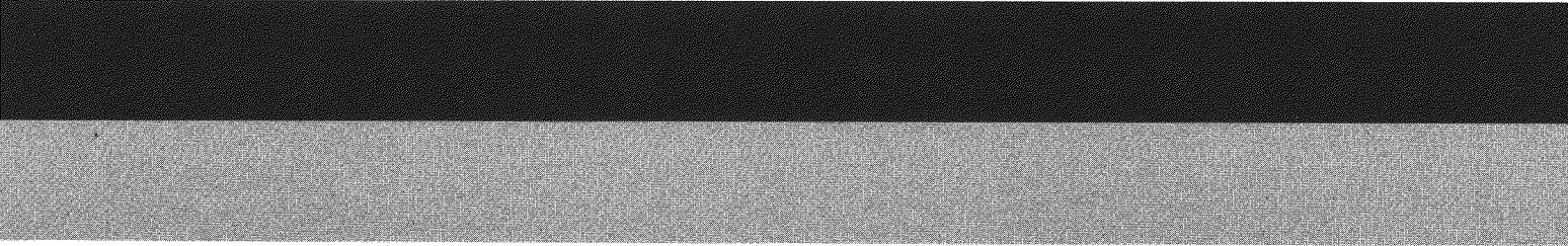
PW4	LPA10056-04A4	JACK BOARD ASSY	
C7192	QCBB1HJ-681	CAPACITOR	680pF,50V
C7194	QCBB1HJ-681	CAPACITOR	680pF,50V
L7191	QRE141J-101Y	RESISTOR	100Ω,1/4W
L7192	QRE141J-101Y	RESISTOR	100Ω,1/4W
J7191	PEMC1009-04	PIN JACK,VIDEO IN	
J7192	PEMC1010-03	PIN JACK(SW),A(L)IN	
J7193	PEMC1010-02	PIN JACK(SW),A(R)IN	
J7194	QND0009-001	S JACK,S VIDEO	
CN7191	QGF1207F1-05	FPC CONNECTOR,(3-7)MAIN	
CN7192	QGF1207F1-04	FPC CONNECTOR,(1-4)S-SUB	

JOG BOARD ASSEMBLY(S8600EU) <37>

PW2	LPA10056-01A3	JOG BOARD ASSY
UN7091	PEME0976	JOG ASSY
CN7005	QGF1207F1-06	FPC CONNECTOR

LOADING MOTOR BOARD ASSEMBLY <55>

PW2	LPA10010-01A2	LOADING MOTOR BOARD ASSY	
C1	QFV61HJ-104	F CAPACITOR	0.1μF,50V
OT1	PU59915-105	#500SPACER0.01,C1	
CN1	QGB2533K1-02	CONNECTOR	



JVC

VICTOR COMPANY OF JAPAN, LIMITED
VIDEO DIVISION

S40894